# 79 MINUTES OF VIDEO

Future

# Digital Camera World

*The definitive guide to SLR photography*



## SHOOT THE NIGHT!

A-Z GUIDE

- Astro-photography
- Light-painting
- Moonscapes
- The Milky Way
- Low-light shots
- And loads more...

## HOT NEW CAMERAS

- Fujifilm GFX first look
- Canon EOS M5 verdict
- Sony A99 II on test

## 8 PHOTOSHOP ALTERNATIVES

Image editing without the need of a subscription




## FREE! WITH THIS ISSUE

- ALL-NEW 162-PAGE CAMERA SHOPPER GEAR BUYING GUIDE
- LOW-LIGHT EBOOK
- CAMERA RAW EBOOK
- 9 NIGHT PHOTO TIPS CARDS




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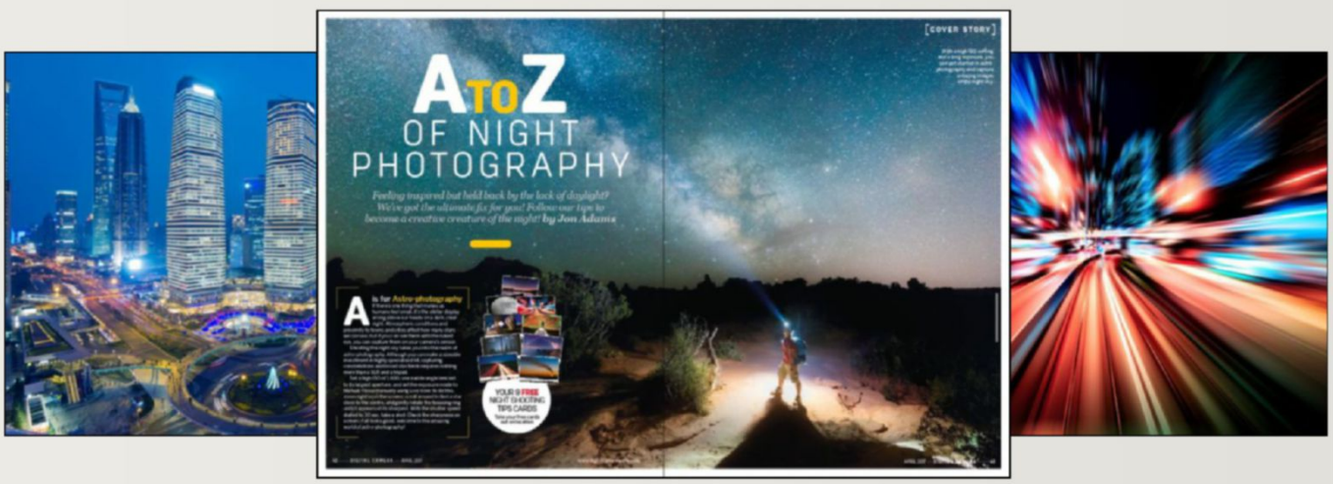
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EVERYTHING YOU NEED TO KNOW ABOUT PHOTOGRAPHY!

COVER STORY

## NIGHT PHOTOGRAPHY

Follow our A to Z to get amazing results




**44** Become a creative creature and capture the night! Jon Adams reveals his top shooting tips for night-time photography in our alphabet-led guide



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### AVEBURY STONE CIRCLES

Two *Digital Camera* readers head to Avebury's stone circles in Wiltshire on a rather wet and misty monochromatic day to battle it out



24

PHOTO PROJECTS

### GET INSPIRATION FOR SPRING

Take a look at our redesigned Photo Projects section and get stuck into even more practical techniques, including how to transfer an image onto wood



112

GROUP TEST

### PHOTO EDITING ALTERNATIVES

We test eight alternative photo editing programs to see how they compare. Included in the test: PhotoDirector, Capture One Pro, Photoshop Elements and more

# Welcome to the April 2017 issue of Digital Camera

**THERE'S no denying that the sky at night is a beauty to behold – on a crisp clear night, that is!** However, capturing that sense of awe and wonder can be challenging, especially if you've never tried it before. So we've whipped up an A-to-Z guide that'll show you everything you need to know to get started. Chock-a-block with skills, techniques and advice, we'll get you up and running in no time.

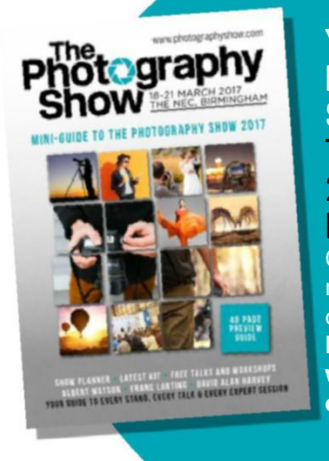
It's also a great pleasure to launch a new series featuring intrepid photographer and passionate walker Quintin Lake. He'll update us every month with news and pictures from his epic journey around the UK's coast. He's in Pembrokeshire (walking clockwise) this month and hopes to be finished in 2020 (ish), so look forward to plenty of inspirational stories and amazing images from his travels in the coming months. See page 98 for his first dispatch.

Finally, I was also lucky enough to get my hands on the fabulous new medium-format from Fujifilm; see page 18 for my first impressions. I can't wait to get one in for a full review!



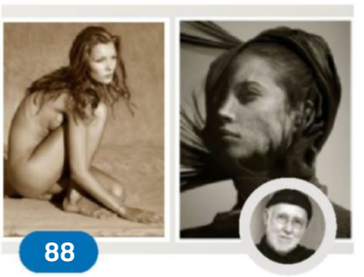
Ben

**Ben Brain**
**Editor, Digital Camera**


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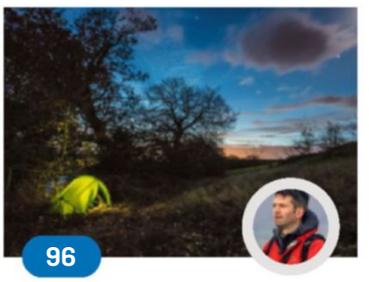

# THIS MONTH'S STAR CONTRIBUTORS...




THE BIG INTERVIEW
## ALBERT WATSON
The iconic Scottish photographer shares an insight into his career




PS MASTERCLASS
## JON ADAMS
Combine three images to create a striking silhouetted scene




THE PERIMETER
## QUINTIN LAKE
Where is Quintin Lake this month? Turn to page 98 to find out...

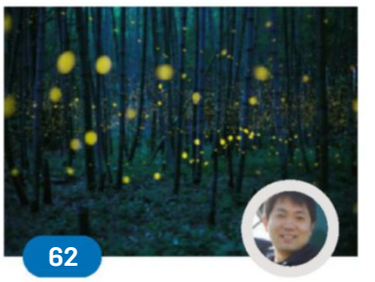
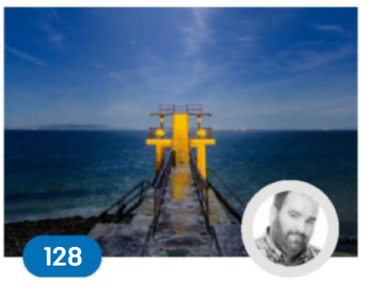


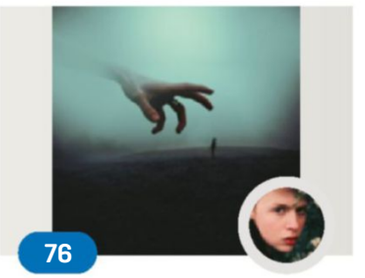

IMAGE ANALYSIS
## KEI NOMIYAMA
We take a closer look at Kei's enchanted forest image



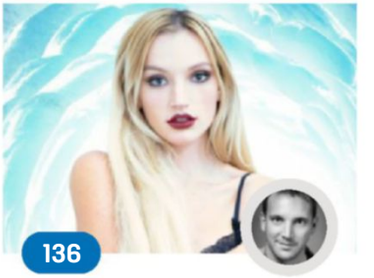

QUESTION MASTER
## ANDREW JAMES
Andrew is on it this month, answering your questions and technical problems




LIGHTROOM MAESTRO
## SEAN McCORMACK
Our expert Lightroom guide enhances this night scene




PORTFOLIO
## SEANEN MIDDLETON
The young photographer speaks about his inspirations and dreams

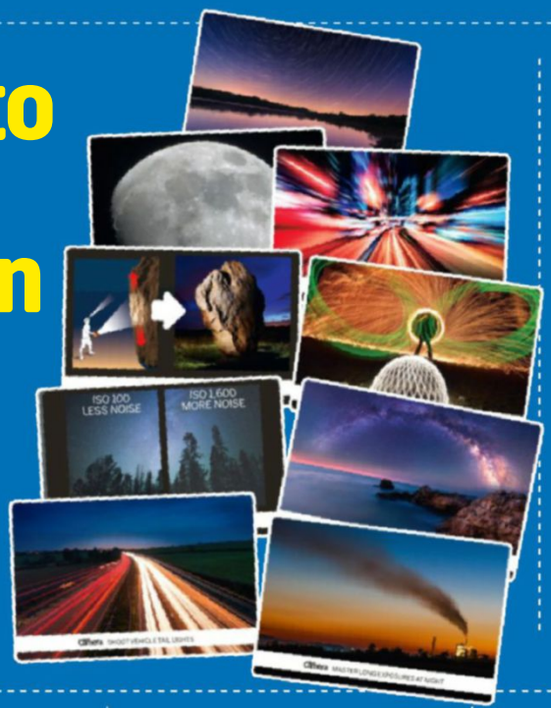



CREATIVE MAESTRO
## JAMES PATERSON
Get creative with cut-outs as James shows you some simple techniques

# FREE GIFTS

**EVERY ISSUE WE BRING YOU MORE FREEBIES THAN ANY OTHER PHOTO MAGAZINE!**

## NIne night photo tips cards to take on location




**To tie in with our creative A-to-Z guide for capturing the night (see page 44), we've included nine free handy wallet-sized tips cards you can take out on location. Never again will you be stuck on what to do when it comes to setting your camera up in the dark. Just make sure you pack a torch so you can read them on location!**

**Covering: Star trails • The moon • The Milky Way • Zoom-burst effects • Long exposures • Tail light techniques • Fire spin effects • plus more!**

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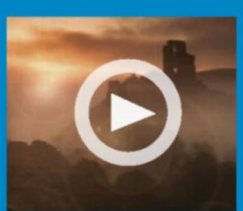
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## CAMERA RAW AND LOW-LIGHT EBOOKS

Take your shooting and editing skills to the next level with these free guides! You'll find your free ebooks as PDFs in the Gifts folder on the disc.



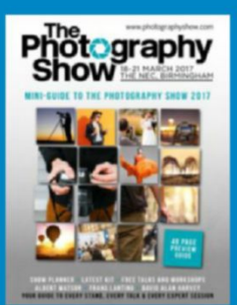
## 79 MINUTES OF VIDEO

We've packed the video disc full of expert tutorials to help you improve your photo-editing skills. This month Sean McCormack shows you how to enhance a night scene using Lightroom, and Jon Adams reveals how to create a striking silhouette from three images. Follow along with their tutorials and get striking results. Look in the Videos folder on the disc.




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If you're after some new kit this year, you won't want to miss your free *Camera Shopper* ebook, with the best buying advice around. You'll find your free *Camera Shopper* guide as a PDF ebook in the Gifts folder on the disc.




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With The Photography Show 2017 just around the corner, we're getting very excited! You'll find your free *The Photography Show* guide as a PDF ebook in the Gifts folder on the disc – and UK readers get a printed guide too!

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Future Publishing, Quay House, The Ambury, Bath BA1 1UA
**Editorial** +44 (0)1225 442244 • www.digitalcameraworld.com
**Subscriptions and Customer Services** +44 (0)1604 251 045

**Editorial**
Editor **Ben Brain**
ben.brain@futurenet.com
Technique editor **Claire Gillo**
claire.gillo@futurenet.com
Contributing editor **Marcus Hawkins**
marcus.hawkins@futurenet.com
Art editor **Roddy Llewellyn**
richard.llewellyn@futurenet.com
Operations editor **Richard Hill**
richard.hill@futurenet.com
Graduate writer **Lauren Scott**
lauren.scott@futurenet.com
Online editor **Phil Hall**
phil.hall@futurenet.com
Head of testing **Rod Lawton**
rod.lawton@futurenet.com
Imaging labs manager **Ben Andrews**
ben.andrews@futurenet.com
Cover image **Jasmine_K/Shutterstock**

**Editorial contributors**
James Abbott, Jon Adams, David Clark, Charlie Coles, Andrew James, Quintin Lake, Sean McCormack, James Paterson, Matthew Richards, Rob Speed

**Advertising**
Senior advertising sales manager **Amanda Burns**
amanda.burns@futurenet.com
Account director **Matt Bailey**
matt.bailey@futurenet.com

**Circulation**
Campaign manager **Charlotte Lloyd-Williams**

**Production**
Production co-ordinator **Vivienne Calvert**

**Licensing**
Senior licensing and syndication manager
**Matt Ellis** matt.ellis@futurenet.com +44 (0)1225 442244

**Management**
Creative director **Aaron Asadi**
Editorial director **Matthew Pierce**
Group editor-in-chief **Chris George**
Group art director **Rodney Dive**

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# VIDEOS

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## DIGITAL DARKROOM

Image-editing guides for Photoshop and Lightroom:
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NEW SERIES BY JON ADAMS

Photoshop Masterclass: Strong silhouettes
Harness the power of selections and layers in Photoshop See page 126

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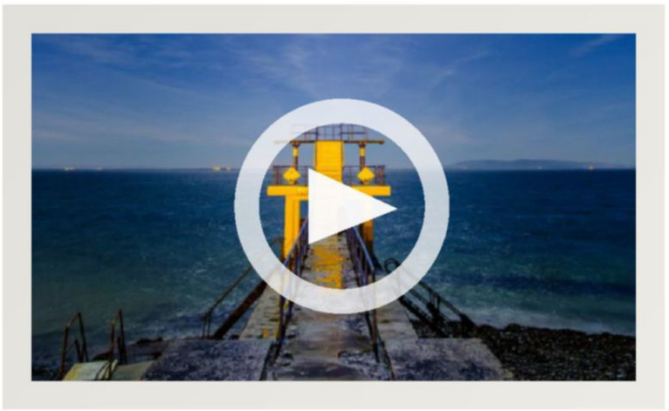
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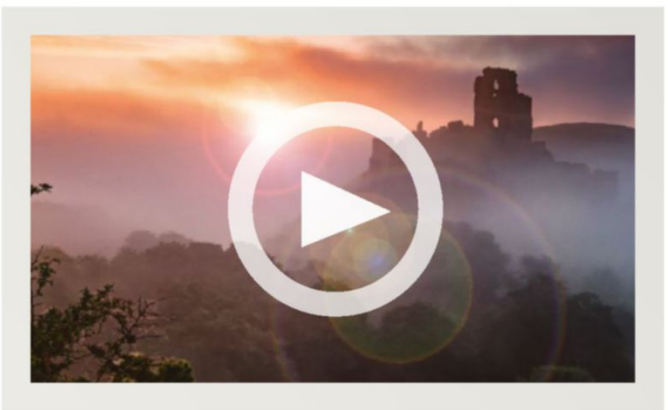


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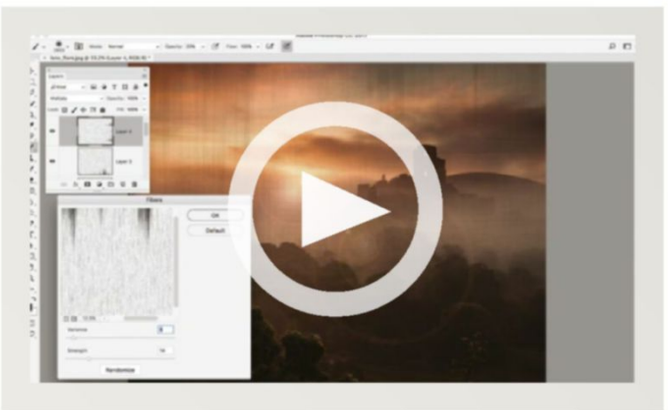
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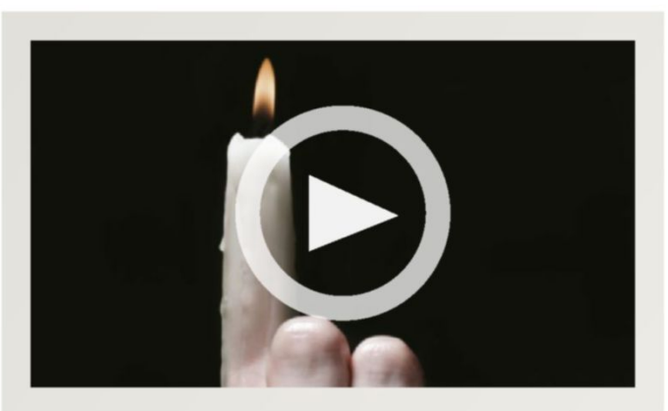
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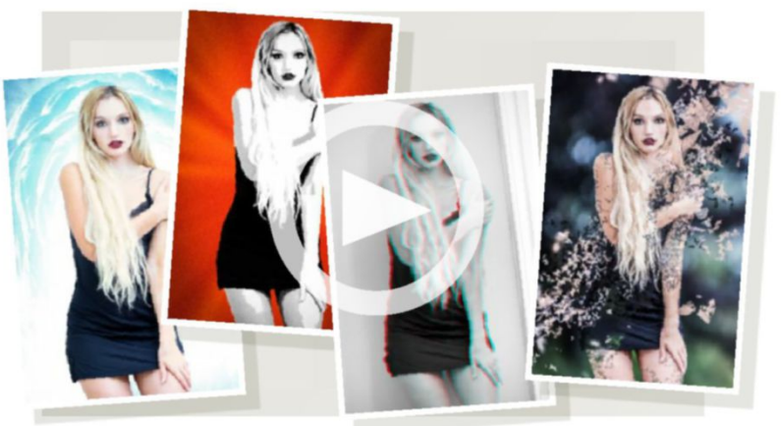
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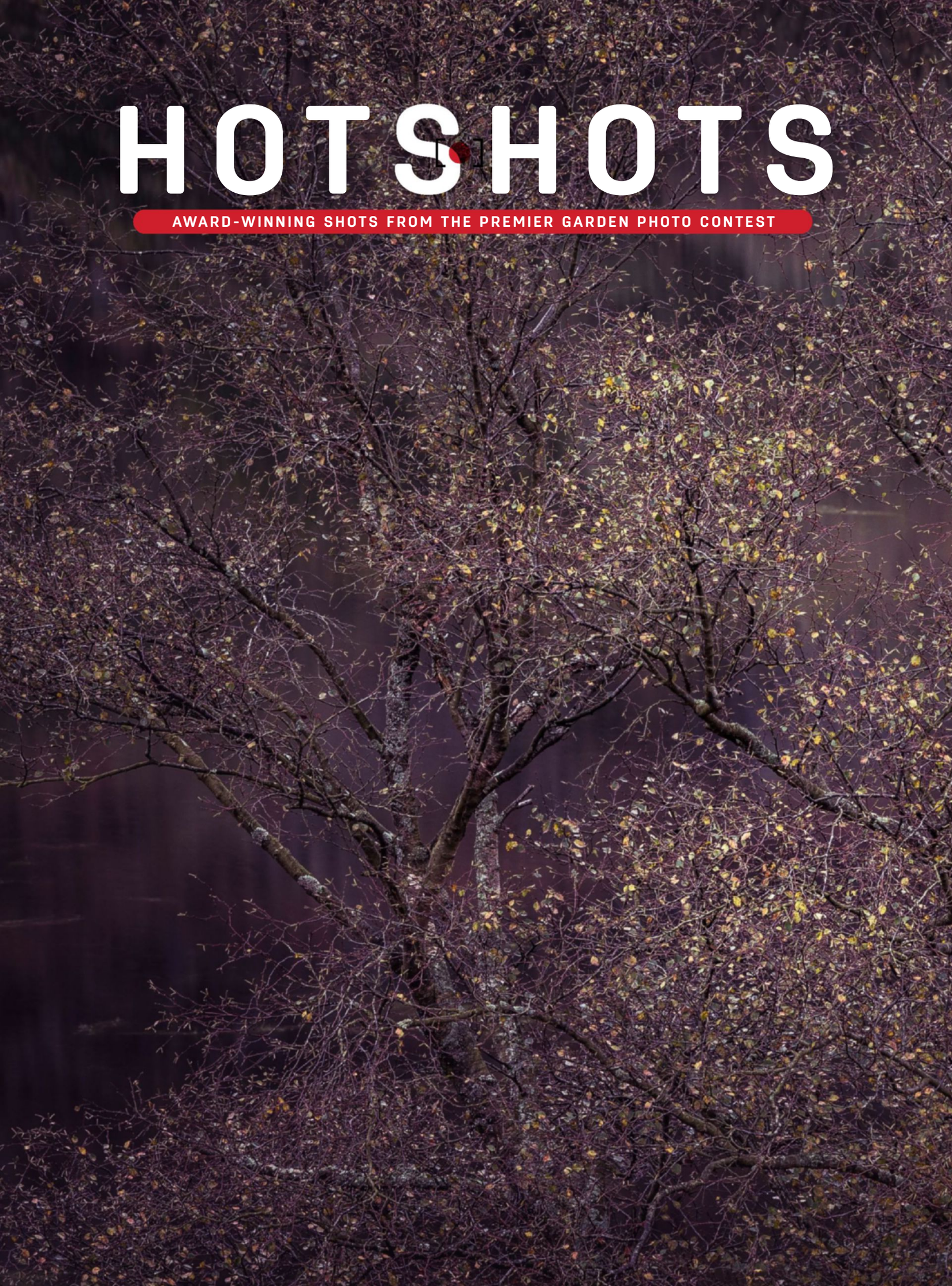
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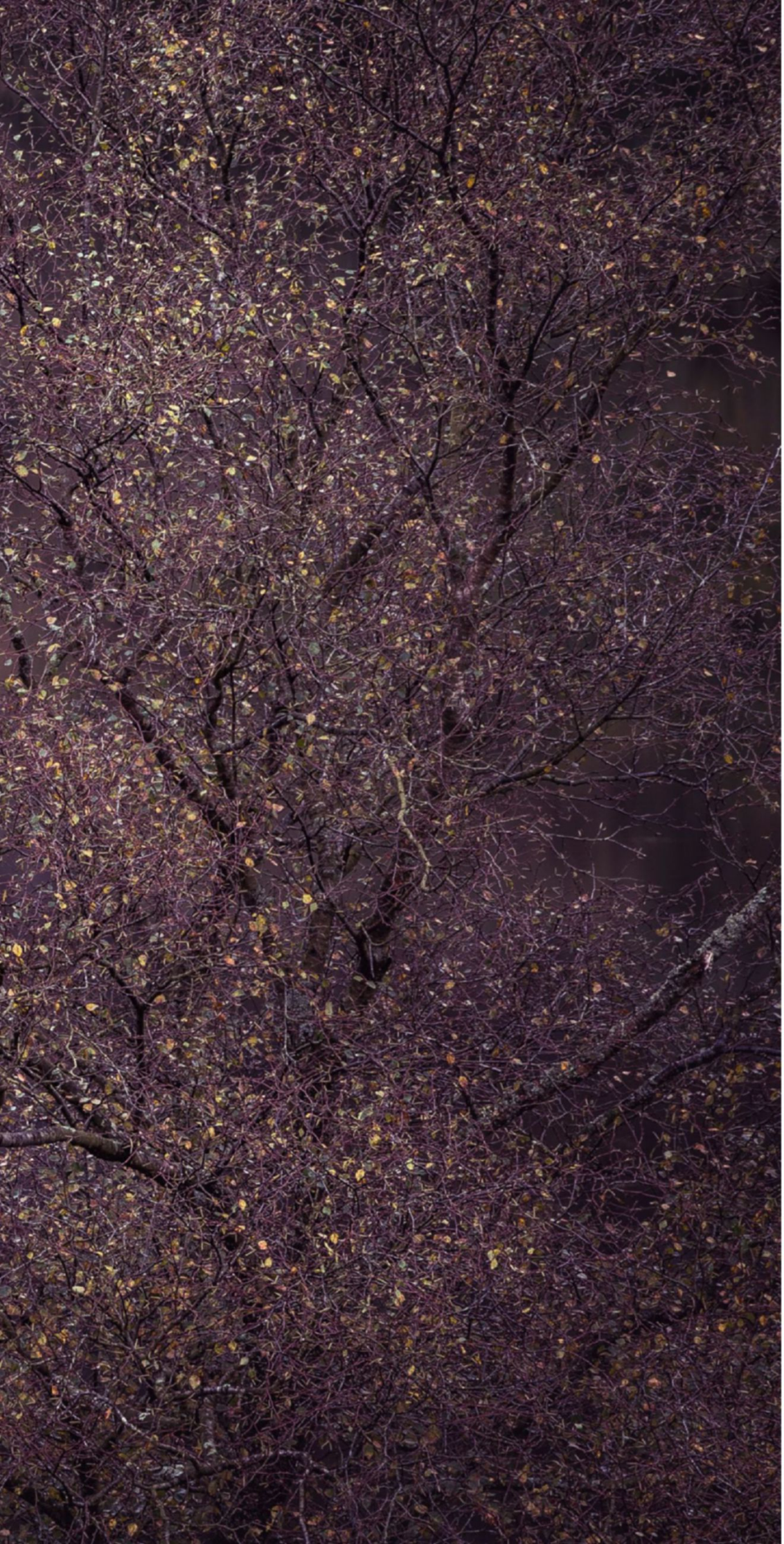


Artist Insight: Blend objects together with Layer Masks for surreal scenes
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Creative Spotlight: Cut out your subject and add four amazing effects
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HOTSHOTS
AWARD-WINNING SHOTS FROM THE PREMIER GARDEN PHOTO CONTEST



INTERNATIONAL GARDEN PHOTOGRAPHER OF THE YEAR
IMAGES OF A GREEN PLANET

## ABOUT INTERNATIONAL GARDEN PHOTOGRAPHER OF THE YEAR

International Garden Photographer of the Year is the world's premier competition and exhibition for garden, plant and botanical photography. The competition runs from February until October every year, with a first prize of £7,500 for the overall winner and £2,000, plus a gold medal from the Royal Photographic Society, for the portfolio winner.

An all-new web experience is due to launch with this year's competition, with brand-new categories including My Garden Stories and Outdoor Living, plus Gardens on the Go for mobile devices. The launch exhibition of IGPOTY 10 is at the Nash Conservatory at Royal Botanic Gardens, Kew, until 12th March.
**www.igpoty.com**

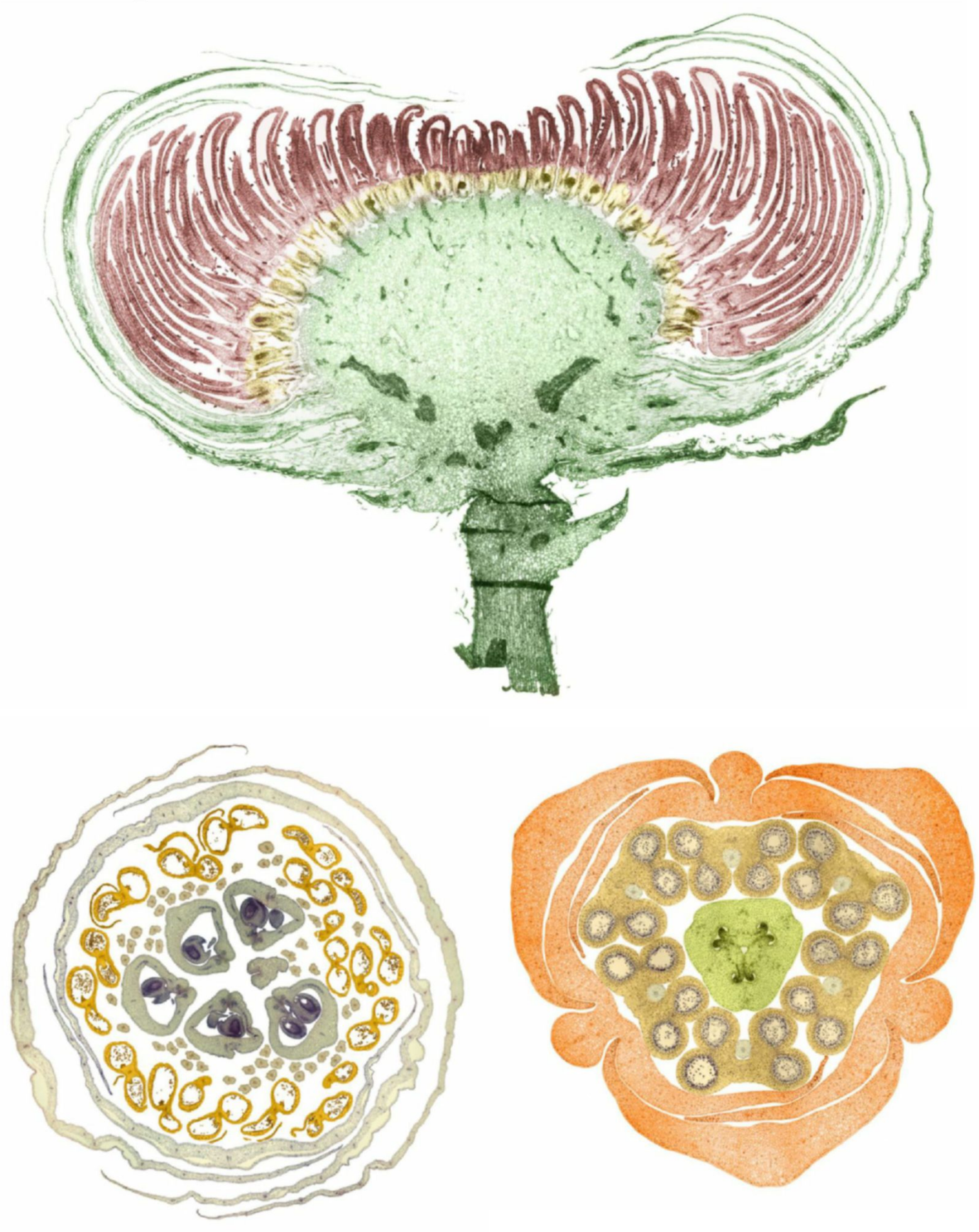
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Your photograph could appear here! Send your best recent shot to **digitalcamera @futurenet.com** (subject line: Hotshots)

## OVERALL WINNER

### LEE ACASTER

**SNOWDONIA NATIONAL PARK, UK**
**"It was a dark and wet morning in Snowdonia, but autumn always offers opportunities. The dark water behind the lake helped to isolate the form and texture of the tree while providing contrast to the dazzling leaves."**
**Kit** Sony Alpha 7R with 70-200mm lens
**Exposure** 0.6 sec at f/11, ISO 100



## 1ST PLACE, PORTFOLIOS STEVE LOWRY

**PORTSTEWART, NORTHERN IRELAND, UK**

**"I have a keen interest in using microscopy as a tool to reveal the hidden beauty of the natural world, creating a bridge between science and art. This portfolio features sectioned and stained flower buds from: Chrysanthemum, Hydrangea, Tulipa, Helleborus, Echinops ritro and Lilium tigrinum."**

**Kit** Nikon D200 with microscope objective lens, Olympus BX45 microscope, electronic shutter release, camera adapter **Exposure** 1/500 sec to 1/125 sec, ISO 100



**FINALIST, BREATHING SPACES**

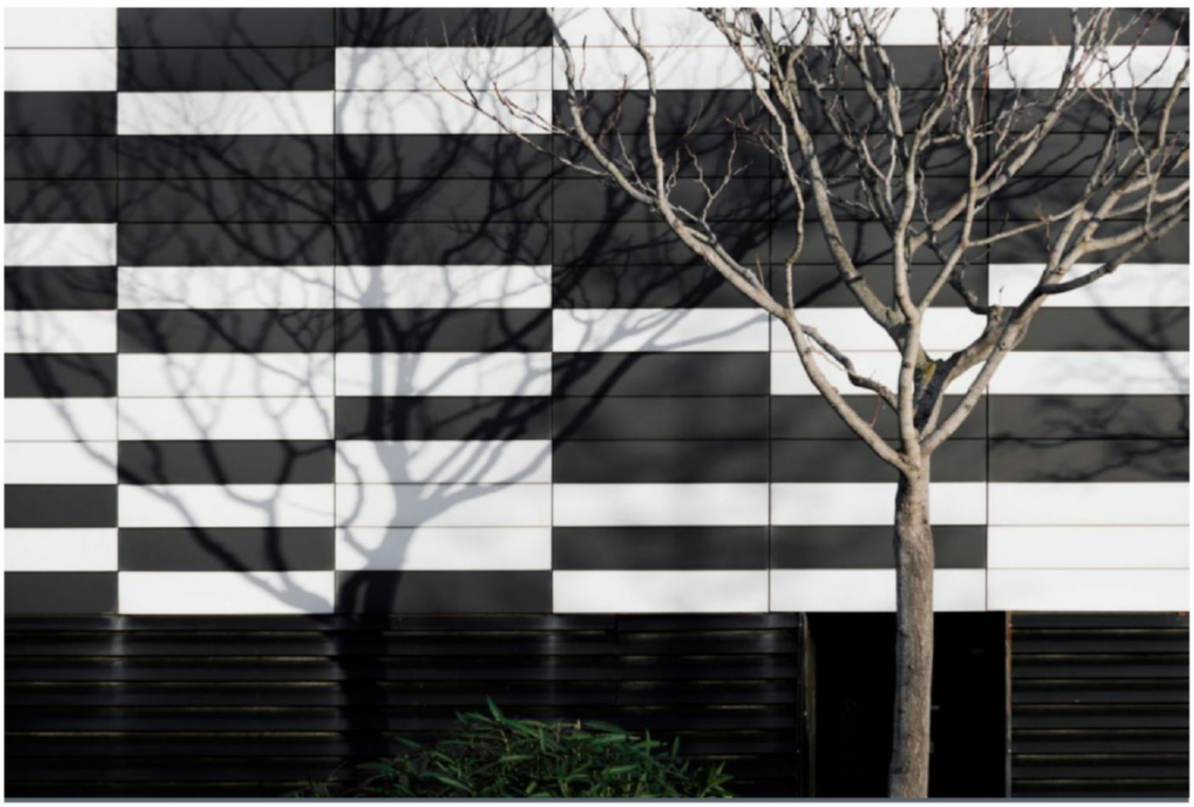
## NIK MUNRO

**A MIDSUMMER NIGHT'S DREAM, INVERURIE, ABERDEENSHIRE, SCOTLAND, UK**

**"Bennachie is one of Aberdeenshire's best-loved mountains and provides a beautiful backdrop to my own garden. There is many a spectacular sunset as well as moonsets; the landscape is constantly changing, with wonderful light and varying conditions all year round. A full moon on the summer solstice will not happen again until June 2062."**

**Kit** Canon EOS 5D Mk II with Canon 16-35mm lens

**Exposure** 1/125 sec at f/2.8, ISO 100



**FINALIST, GREENING THE CITY J RAMON MORENO**

**URBAN TREES III, ZARAGOZA, SPAIN**

**"I was looking for a very particular arrangement of shadows and waited until the light was just right."**

**Kit** Nikon D800 with Nikkor 70-200mm lens **Exposure** 1/200 sec at f/4, ISO 100



**COMMENDED, WILDFLOWER LANDSACPES MARCO ZAMÒ**

**LA FIORITURA III, CASTELLUCCIO DI NORCIA, UMBRIA, ITALY**

**"The endless fields of lentil flowers make the Castelluccio landscape one of the most photographed in the world."**

**Kit** Nikon D500 with Sigma 150-600mm lens **Exposure** 1/250 sec at f/8, ISO 200

SONY




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**HIGHLY COMMENDED, THE BEAUTY OF PLANTS** KASIA NOWAK

**BERRIES, LONDON, UK**

**"On a foggy autumn morning, I discovered that the Cotoneaster shrub outside my house was adorned with multiple layers of spider webs."**

**Kit** Nikon D800 with Tamron 90mm macro lens **Exposure** 1 sec at f/22, ISO 100



**FINALIST, THE BOUNTIFUL EARTH** ALBERT CEOLAN

**THE GRAPE HARVEST, SOUTH TYROL, ITALY**

**"The sun had been sustaining these vines all summer long, and now the grapes were ready for picking. Harvest time is pure joy, especially when it's shared with others."**

**Kit** Nikon D4S with Nikkor 24-70mm lens **Exposure** 1/125 sec at f/11, ISO 800

SONY




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# INFOCUS

*Photography news from around the globe*




1 The shutter's rated for up to 150,000 shots, with a maximum shutter speed of 1/4,000 sec available (1/16,000 sec with the electronic shutter). Flash sync is 1/125 sec.

2 Separate dials enable aperture, shutter speed and ISO to be set independently, while a 1.28-inch top-plate LCD enables you to monitor the settings easily.

3 An optional £669/$659 H Mount Adapter enables the use of nine Fujinon HC lenses and a tele-converter developed for the GX645AF.

4 The 3.2-inch monitor has a resolution of 2.36 million dots, and offers touchscreen support.

MEDIUM-FORMAT HANDS-ON

# SPECIAL 'FX

FIRST TEST

Ben Brain spends some quality time with Fujifilm's new medium-format camera and comes away impressed



**THE most surprising thing about the Fujfilm GFX 50S isn't its SLR-like size and handling.** Nor is it the speed with which you can get up and running – if you've had any experience with one of Fujifilm's X-series cameras, it takes no time at all to tailor it to your needs. It's not even the camera's write speeds, which are surprisingly peppy for such high-resolution files. No, it's the price.

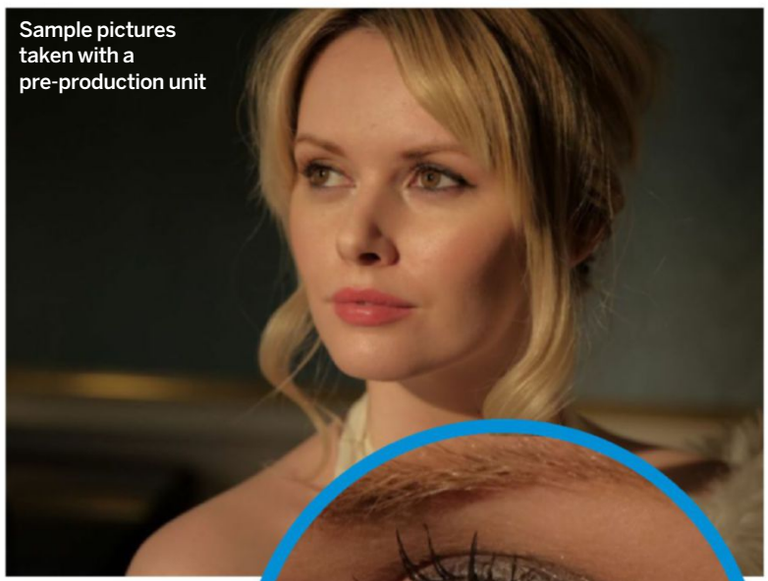
Many photographers anticipated a price point approaching £/$10,000, but the GFX 50S's retail price for the body only is £6,199/$6,499. We're not saying that's cheap, but it's a little less than the Pentax 645Z medium-format body and isn't far off the cost of a professional SLR camera such as the Nikon D5.

What you get for your money is a weather-resistant magnesium alloy body that, again, isn't far off the proportions of a pro SLR. (In fact, it weighs just 825g including the battery – the D5 comes in at 1,415g all in.) This body houses a 51.4MP CMOS medium-format sensor that measures 43.8 x 32.9mm, giving a capture area that's around 1.7x that of a full-frame SLR sensor. That means larger prints that still pack bags of detail and which should, in theory, be less noisy at higher ISO settings. The GFX 50S's sensitivity runs from ISO 100-12,800, expandable to ISO 50-102,400. We've tried the camera in a variety of studio settings using both strobes and continuous lights and have been impressed by the smoothness and detail captured by the sensor at ISO 1,000, such as the portrait on the opposite page.




Obviously there's only so much you can glean from a couple of days with a camera, and we'll be pushing it harder when it





Sample pictures taken with a pre-production unit



Three GF lenses will be available at launch. We used the GF 32-64mm f/4 lens at 34mm (equivalent to 27mm on a full-frame) for the top shot, and the GF 120mm f/4 (95mm on full-frame) for this comes to review time. One thing that is clear is that it's an intuitive camera to use. It's well balanced, especially with the optional vertical grip (expect to pay just shy of £/$600 for that) and the menus are easy to navigate if you're familiar with an X-series body. The EVF gives a clear, detailed view, while the rear touchscreen makes the GFX 50S feel more nimble to use.

To coincide with the launch of the new system, Fujifilm is rolling out a new European Professional Services Scheme, which will initially be available in the UK and Germany from March. If you're a pro and own a GFX system or at least two pro X-series bodies and three XF lenses, you can enjoy the service for free for the first two years. Otherwise it's likely to cost £260 per year. The benefits include fast repairs, a 15% discount on repairs, and free loan until the camera repair is finished.
**www.fujifilm.eu/uk**

# FOCAL POINT

Rounding up what's new and exciting



**GoPro Karma**
Withdrawn from sale by GoPro in November after reports of batteries disconnecting during flight, the redesigned Karma drone and stabilisation system will be available this spring.
**£TBC/$TBC**
**www.gopro.com**



**Sony 100mm f/2.8 STF G M OSS lens**
Sony's new prime lens is said to offer the highest-ever quality bokeh for an alpha lens, through an 11-bladed aperture and an optical element that offers increased defocus at the edge of the frame.
**£1,700/$1,498**
**www.sony.co.uk**

**Kenro GHC1 gimbal**
Gimbal tripod heads make it easier to work with long lenses, and Kenro's new carbon-fibre model can support lenses weighing up to 15kg while coming in at a paltry 1.3kg itself. Its price is pretty good for a gimbal too…
**£269.94**
**www.kenro.co.uk**







NEW CSC/COMPACT

## X APPEAL

**IN addition to launching the GFX 50S in March, Fujifilm has two new cameras.** The £799/$899 mid-range X-T20 mirrorless camera packs an updated APS-C 24.3MP CMOS sensor and a new X-Processor Pro image engine. It has a tilting LCD and built-in EVF, and shoots 4K video.

The X100F is a £1,249/$1,299 compact that boasts a 24.3MP sensor without an AA filter, Fujifilm's Advanced Hybrid Viewfinder and a fixed 23mm f/2 lens.
**www.fujifilm.eu/uk**



Dana Lixenberg

EXHIBITION

## PRIZE OPEN

**PROJECTS from the shortlisted artists for the Deutsche Börse Photography Foundation Prize 2017** – Dana Lixenberg, Sophie Calle, Awoiska van der Molen and Taiyo Onorato & Nico Krebs – are on show at The Photographers' Gallery from 3rd March until 11th June.
**http://thephotographersgallery.org.uk**




HIGH-ISO CAMERA

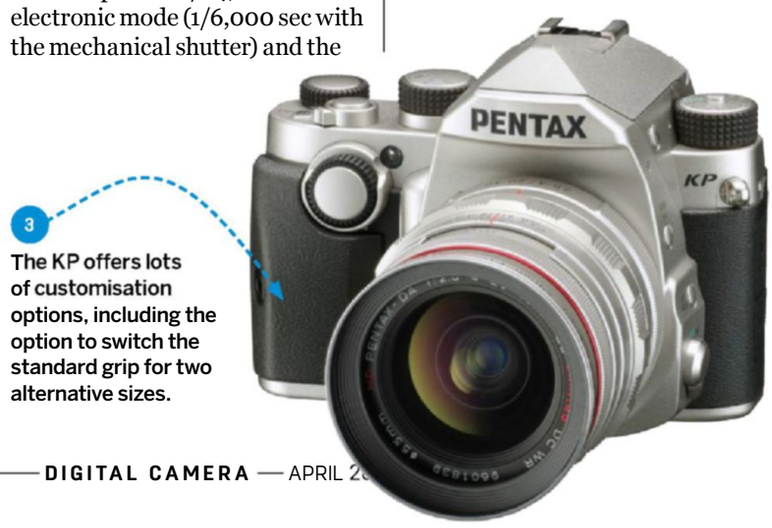
# PEN' LIGHT

## Meet the 24MP Pentax KP, a new APS-C SLR that wants to help you take shots in the dark

**RICOH has unveiled the Pentax KP, an SLR that boasts a new high-sensitivity AA filter-free sensor that can be pushed all the way to ISO 819,200.** And to think, it wasn't that long ago that a roll of film rated at ISO 800 was considered high-sensitivity.

An ISO that high allows you to hand-hold the KP for snapshots of night scenes, says Ricoh. It's not the KP's only significant figure: its combined mechanical and electronic shutter enables a high shutter speed of 1/24,000 sec in electronic mode (1/6,000 sec with the mechanical shutter) and the camera includes the same 5-axis Shake Reduction II system as used on the full-frame K1, along with Pixel Shift Resolution and AA Filter Simulation to reduce moiré.

The body itself is weather-resistant and features a tilting LCD screen. Autofocus comes in the form of a 27-point system, while the continuous shooting maxes out at 7 frames per second for eight raw files. Expect to pay £1,099/$1,099 for the body; you may want to factor in the cost of a spare battery, as a single one will only last around 390-420 shots.
**www.ricoh.com**




# FOCAL POINT

Rounding up what's new and exciting



**NanGuang LED continuous light**
NanGuang's Fresnel lighting range is being joined by three new directional lights: the CN60F (60 watts), the CN100F (100 watts) and the CN200F (200 watts – and at 17kg for the full kit, it's a heavyweight).
**From £527.94**
**www.kenro.co.uk**



**Sony 85mm f/1.8 lens**
As well as introducing a new 100mm lens, Sony has unveiled a full-frame compatible moisture-resistant portrait prime lens, which has a nine-bladed aperture and a customisable focus hold button.
**£550/$598**
**www.sony.co.uk**



**Samyang Xeen 20mm T1.9 cinema lens**
Designed for high-end video shooters, this new 20mm from Samyang features 11 aperture blades and works with full-frame cameras, Super 35, APS-C, APS-H and APS-P models.
**£1,800/$2,495**
**www.xeenglobal.com**



NEW LENSES

## THE TWO 'RONNIES

**TAMRON has announced two new lenses: a 70-200mm zoom for full-frame cameras and a 10-24mm ultra-wide for APS-C models.** The new SP 70-200 f/2.8 Di VC USD G2 (£1,349/$1,499) features a revised optical design, an improved Vibration Compensation function that's said to offer up to five stops of shake reduction, and an eBand Coating to reduce flare.

The 10-24mm f/3.5-4.5 Di II VC HLD (£TBC/$499) also boasts Vibration Compensation, along with Tamron's new High/Low Torque motor for driving the autofocus.
**www.tamron.eu/uk**



Joel Meyerowitz

PHOTOGRAPHER HONOUR

## HALL FOR ONE

**RENOWNED street photographer Joel Meyerowitz can now add the Leica Hall of Fame Award to his collection.** The award recognises "exceptional photographers for their particular contributions to the photographic genre, or invaluable services to the Leica brand", with previous recipients including Steve McCurry and Vietnam war photographer Nick Ut. It was an encounter with Robert Frank in the 1960s that started Meyerowitz's obsession with photography; his work is now on show at Leica Galerie Wetzlar in Germany.
**www.leica-camera.com**



Maggie Barrett



*Nikon D810, Zeiss 21mm Distagon,*
*F11 at 2 minutes, 100 ISO. LEE Super Stopper.*

# SUPER STOPPER

Most photographers shooting land or seascapes would choose to work at either end of the day when the light is soft. This is also generally the time when the addition of a 6 or 10 stop filter will give the very long exposures necessary to give the effect of smooth water and cloud motion.

But sometimes things don't work out that way. It might be a question of tide or timing, of weather or circumstance, or even a combination of these factors, but sometimes you need to be able to shoot in broad daylight, or even bright sunlight, and still achieve those very long exposures. These are the conditions for which the 15 stop Super Stopper has been designed.

I arrived at this location, in Monterey, California, at three in the afternoon, really just for a look as although the sky was quite overcast, conditions were incredibly bright. I then noticed the cloud formation above the tree which seemed to be leading the eye toward it, and the current leading in from the bottom right hand corner, and realised quickly that, despite the bright light, this was something that might not happen again. The shutter speed without filtration was 1/250th of a second. With a 10 stop Big Stopper that gave me 4 seconds, but with the 15 Stop Super Stopper I was able to achieve this photograph with an exposure time of 2 minutes.

Jonathan Chritchley
www.jonathanchritchley.com



NEW
Super Stopper

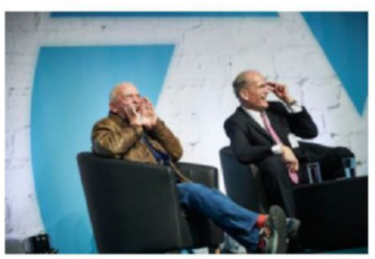
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PHOTOGRAPHY EVENT

# IT'S A SHOW THING

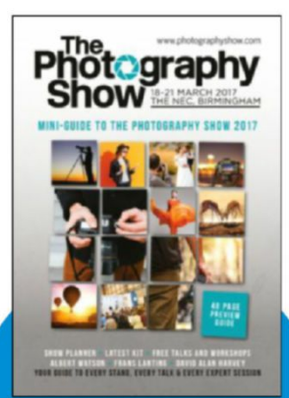
## Have you got your ticket to this year's TPS?

**THE Photography Show opens its doors from 18th-21st March at The NEC, Birmingham.** Promising a feast of photography talks, training seminars, demonstrations and show deals, there will also be the chance to get hands-on with the latest cameras and accessories.

This year's Super Stage hosts some serious photographic talent, with Albert Watson, Nadav Kander, Frans Lanting, Jill Furmanovsky and more providing revealing insights into their approach to photography.

There's something for everyone at the show – from beginner, student and pro masterclasses to dedicated zones for video, mobile and social media, drones and Virtual Reality. *Digital Camera* will be there too, so do come along and say hello!

**www.photographyshow.com**




Don't miss your free show guide with this issue, and find out more at: **www.photography show.com**

# FOCAL POINT

## Rounding up what's new and exciting




**Lexar Pro 512GB 3500x CFast 2.0 card**
This high-speed card from Lexar's Professional range promises read transfer speeds of up to 525MB/s and write speeds up to 445MB/s, but at that price you wouldn't want to lose it.
**£1,733/$1,700**
**www.lexar.com**



**Sony HVL-F45RM flash**
This new compact flashgun can act as a transmitter or a receiver in Sony's radio-controlled flash system. It has a Guide Number of 45 and a battery life of up to 210 bursts.
**£420/$398**
**www.sony.co.uk**



**Sevenoak camera slider**
Seven new Sevenoak sliders are being launched , including a compact model that's 60cm in length, a 120cm model that can support up to 10kg and a dolly slider that features built-in wheels for tracking shots.
**From £102**
**www.kenro.co.uk**



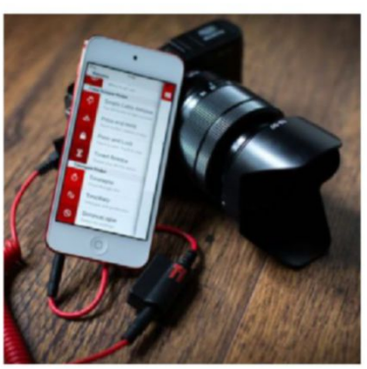
NEW RANGEFINDER

## WHAT'S NOT TO LEICA?

**THE new arrival in Leica's M-Series is a baby in every sense. With a top plate depth of 33.75mm, the M10 is the slimmest digital M so far.** It's manual-focus only, but to improve the view of the subject, the field of view's been enlarged by 30% and the magnification bumped up to 0.73x.

A newly designed 24MP full-frame CMOS sensor offers an expanded sensitivity range of ISO 100 to 50,000, while the M10 is the first M-Camera to come with Wi-Fi. Despite its small size, you'll need deep pockets: the M10 will set you back £5,600/$6,595.

**www.leica-camera.com**



Triggertrap

COMPANY CLOSURE

## TRIGGER UNHAPPY

**TRIGGERTRAP, the company behind one of our favourite intervalometer gadgets, Triggertrap Mobile, is going out of business.** Founder Haje Jan Kamps says that since its failed Kickstarter campaign for its Triggertrap Ada modular trigger, the company's struggled. As a result of closing down, there will no longer be official tech support for Triggertrap Mobile, and although the app will remain on the App Store, future iOS or Android updates may cause incompatibility.

**www.triggertrap.com**

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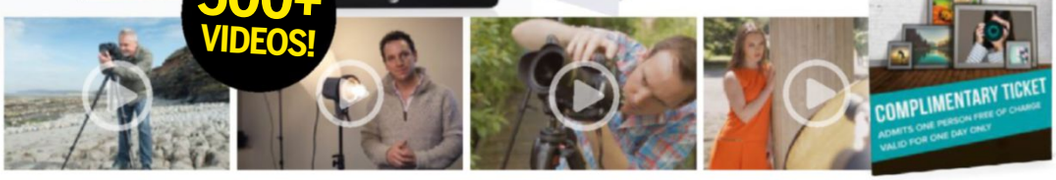
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# PHOTO PROJECTS

*12 photo projects to get stuck into, including how to transfer an image onto wood*

## Roeselien's recipe

• **Patience** "Goslings (like all youngsters) are curious and have a whole world to explore, which means they won't sit still for a second. Watch them, study them, and be prepared for the one moment that touches you."



• **A long lens** "A good telephoto such as the Canon EF300mm f/4L IS USM used for this shot creates a nice soft bokeh, which helps to make all the focus go to the main point of interest.

• **Subtle editing** "For post-processing, I added a bit of contrast to enhance the sunny feeling."

[PROJECT 1]

# Spring into life
# Baby birds

***Ramp up the cute factor and head out in search of young wildlife subjects***

**NATURE lover Roeselien Raimond says she always shoots subjects that move her...** It's easy to see why she captured this cute gosling! "I just have this weak spot for baby animals. I adore their enthusiasm, their eagerness, their frankness. It's inspiring and contagious," she says.

Spring is just around the corner, so this is the perfect time of year to be inspired by new flora and fauna bursting into life. Why not stay local and see what cheeky characters you can find? Roeselien needed a spot to approach the goslings (and their overprotective parents): "A park where the birds have gotten used to human visitors works well."

She knew that warm backlighting would complete the look, and had to return a few times before the sun finally worked its magic.

Approaching baby animals is tricky. Even with a long lens (this was shot with a 300mm), you might need to adopt an unusual shooting style... "I pretended to be a crawling camera," Roeslien says. Keep the camera close to your face to keep up the disguise!

**www.roeselienraimond.com**



You don't have to travel miles to find the right subject. Head out to your local pond or park – anywhere you can get close to young wildlife in a natural setting.

Roeselien Raimond



Ben Brain

[PROJECT 2]

# Seaside story
# Fun portrait

*Shoot swimmers emerging from their dip in the sea*

**THERE are many portrait photographic opportunities to be had when you visit the seaside.** In the warmer months (or even winter – we shot this in mid-January), there are always those brave (or nuts) enough to go swimming.

Sea-swimmers often go out in groups, and there are many organised clubs you could get in touch with first. Although it can seem daunting to ask a stranger to take their portrait, people are often willing if you approach with a smile.

You need to be quick taking this type of image. Have your camera fully set up before your subject comes into frame. Look for where the light is coming from and how it's going to sculpt the face and body. We took our portrait during the early hours of a winter morning when the light was soft; but if you're shooting in the summer, watch out for harsh shadows.

To give our swimmer context, we decided to take this portrait in a landscape orientation and include some of the sea and landscape behind. To ensure the detail in the background remained sharp, we reduced our aperture to f/10. This and an ISO of 200 gave us a fast enough shutter speed.




## Select the right lens

**Including more of the background scenery will give your subject context. When it comes to this type of set-up, your choice of lens is vital. For this shot, we used a 24-70mm f/2.8 lens on a full-frame camera with the focal length set at 28mm. If you're shooting with a crop-sensor camera, you'll need to take this into account and may want go use something wider, like a 16-35mm lens. To keep the background sharp, select a narrow aperture setting. The higher the number, the more detailed the background.**

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- Jay P. Morgan
The Slanted Lens

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NEW MONTHLY PHOTO PROJECT!

[PROJECT 3]

# Lauren's DIY Hacks Pinhole perfect

**PINHOLE cameras are the simplest cameras you can find.** They're basically light-tight boxes with a tiny hole (pinhole) and a light-sensitive surface such as film or a digital sensor. You don't actually need a lens to make an image.

You can easily convert your existing SLR into a pinhole camera too, although the final image won't be as sharp as a camera made specifically for pinhole photography. You'll need a camera body cap, standard household materials and some basic tools. We picked up a spare body cap online.

Here's how to make your own pinhole lens at home. Once it's finished, keep it in your kit bag for when the mood takes you.



## Step 1

Drill a small hole directly in the centre of the body cap. Drawing up and laying over a simple paper guide can help you to find this point. An electric drill does the best job here, attached with a drill bit measuring approximately 6mm. Put something underneath the cap if you need to protect the work surface.



## Step 2

The opening in the cap is currently too big for a pinhole. Cut out a square of aluminium kitchen foil, rest it on something soft, and use a sharp, fine sewing needle to make a dimple in the middle. Twist it slowly and steadily to make a tiny hole. Use fine sandpaper to smooth out the hole on both sides of the foil.



## Step 3

Position the foil square over the centre of the body cap, making sure that both holes line up. Fix the foil in place on the inside of the cap using small pieces of black electrical tape (or masking tape coloured over with a black marker pen). Frame the edges of the pinhole – you really want as little foil exposed as possible.




## Step 4

Screw the modified cap back onto the camera – your new pinhole lens is now ready. Switch to manual mode and set a long exposure (try starting with 5 sec) so that enough light reaches the sensor through the tiny hole. You may want to use a cable release and tripod... if not, embrace that creative blur!

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NEW MONTHLY PHOTO PROJECT!

[PROJECT 4]

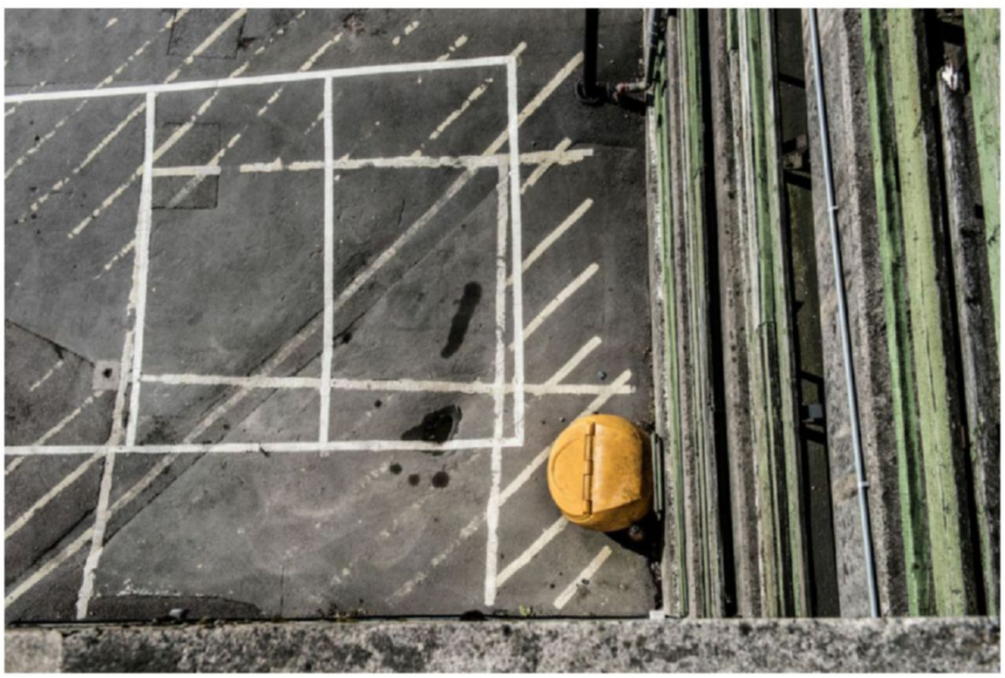
# Quickfire projects
# Get abstract and zoom!

*Try these quick and easy photo projects in only five to ten minutes each!*

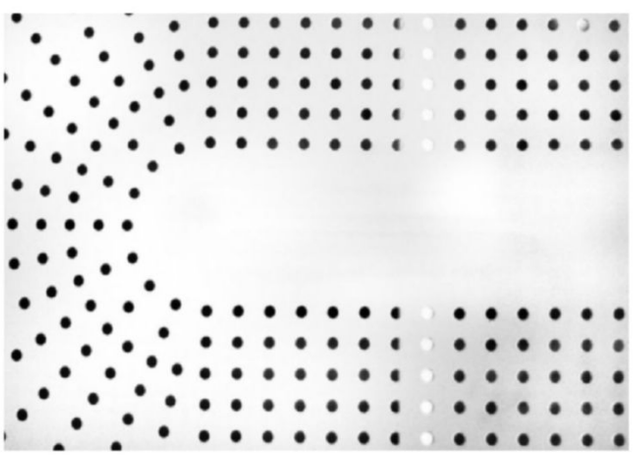
## Aerial abstracts

**NEXT time you head to the shops and park in a multi-storey car park, make sure you pack your camera – or at least have your smartphone camera to hand.** These types of settings might seem dull, but they're actually full of abstract shapes, as well as interesting perspectives where you can get up high and shoot from a viewpoint to create an abstract shot. Avoid using your tripod, as often car parks are private land and you don't want to draw attention to yourself.

Oh, and if you do point your camera over the side of a drop, just make extra-sure that you've secured the neck strap!



Claire Gillo



Claire Gillo

## Shoot close-ups around the home

**YOU may think you need to travel far away from home to capture interesting images, but this is not the case.** Simply by looking around your house, you'll find plenty of everyday objects that can be made into intriguing images.

Our shot is a fold-out chair that we shot from a bird's eye view. The trick is to explore your subject and come up with a composition that removes it from its normal context. To further enhance our shot, we converted it to black and white at the editing stage. All in all, it took us no longer than five minutes to create.



Claire Gillo

## Zoom-burst up a tree

**A ZOOM burst is a fun technique that requires you to use a variable-focal-length lens (ideally something like a 24-70mm).** The idea is to start with your lens at the widest focal length (say 24mm), then twist the barrel of the lens to 70mm (for instance) as you take the shot. To make sure you have enough time, you'll need to reduce the shutter speed to around 1/15 sec. It's easiest to put your camera into Shutter Priority mode or Manual mode if your camera is having problems capturing the exposure. You'll need to give it a few goes to get a winner!

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Claire Gillo

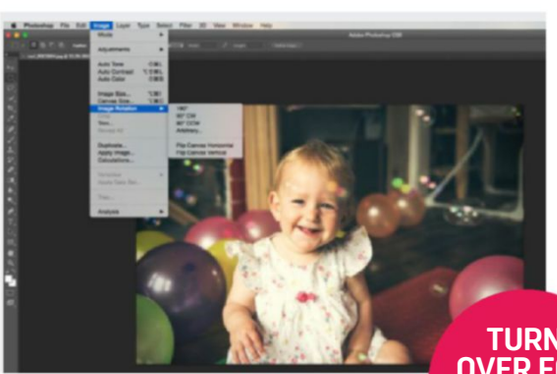
[PROJECT 5]

# Get creative! Wooden images

*Transfer an image onto a piece of wood in six easy-to-follow steps*

**THIS creative project enables you to create a masterpiece that is different from the norm in a few simple steps.** There are a couple of considerations to take into account when you transfer an image onto wood: there are some images that work best (abstract and less complicated scenes are preferable); and you'll also need to consider the tone and grain of your wood. (Pine plywood is good.)

You may think you need loads of fancy kit to do this type of thing, but the items you require are either around the home or readily available from hardware stores. To create your very own wooden masterpiece, you'll need: a laser printer, your photo print, scissors, a cloth, a newspaper, two paint brushes, a piece of wood, Mod Podge or PVA glue, Liquitex Matte Gel (**www.liquitex.com/mattegel**), and a bowl of water.



TURN OVER FOR STEPS 2-6

## Step 1

**In Photoshop (or any image-editing software), flip your image horizontally and print out a couple of copies (in case you go wrong the first time!). You'll need to print onto a laser printer for the wood transfer process to work effectively.**



[PROJECT 5]

## Step 2

Get your piece of wood; if the wood is particulary rough, you may want to give it a quick sand. Cut out the image; we decided to tear the edges of our image for a more rustic look. Now get the Liquitex Matte Gel and apply a thin layer over the image using a paint brush. Stick the image face-down onto the wood.





## Step 3

It's important to make sure that the image is completely flat on the wooden surface, so push out any air bubbles. Leave to dry for at least four hours (ideally overnight): in the meantime, put your feet up, make a cuppa or go to sleep!



## Step 4

Next, fill a small bowl with water – and it's time to reveal the image. We found the easiest method was to wet our fingers, then rub gently over the paper. You'll need to take your time when you do this.



## Step 5

Wipe away any excess paper strands, then leave to dry in a warm place. Once it's dry, you may need to go carefully over it again: it's difficult to remove all the white paper in one go. Don't rub too hard, though, or you may remove the image.



## Step 6

Finally, get the Mod Podge (or PVA glue) and apply a thin layer over the image and the edges of the wood. You can always do a second coat when dry if needed. This seals in the image against the wood and adds a nice glossy sheen.

# simply better.




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Claire Gillo



Start image

Finished image

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**SHARE YOUR PROJECT**
digitalcamera@futurenet.com (subject line: Photo Projects)

[PROJECT 6]

# Photoshop Project
# Vintage tones

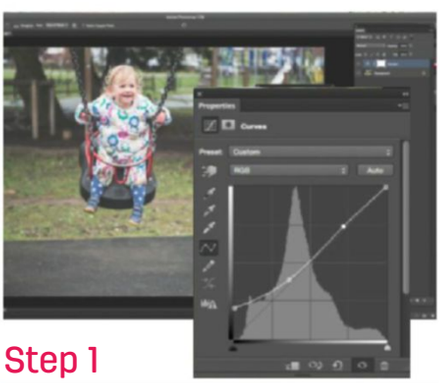
*Use Photoshop to give your portraits a retro look*

**IT SEEMS that the further we get away from the past, the more we want to replicate it.** What was once considered old and shabby is now seen as trendy and rustic. In this photography project, we're going to show you how to turn a modern-day portrait into a toned and tinted 1970s-style family snapshot using Photoshop.

We've used a mixture of Curves and Color Balance adjustment layers, which can both be located under the ying-yang symbol on your Layers panel. The trick is to stain the image with a yellow tint, and reduce the contrast. (Both these jobs can be done with the same Curves adjustment layer).

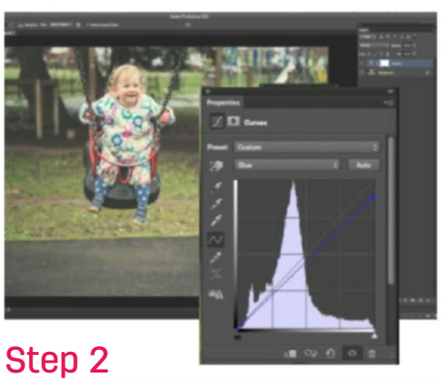
When it comes to selecting a starting image from your photos, it helps to consider what your subject is wearing and the context of the image.

We've included our starting image on the disc so you can have a practice.



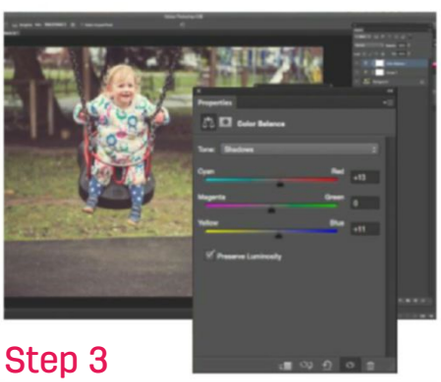
## Step 1

To begin, add a Curves adjustment layer. Next, you're going to reduce the contrast to wash out the image by pushing the line on the right up the graph. Now pull the middle of the line ever so slightly down to create a stylish effect.



## Step 2

To add a yellow tone to the image, click on the RGB drop-down menu of the Curves box and select Blue. Pull the top left-hand side of the graph down. Next, add a Color Balance adjustment layer and select Shadows from the Tone drop-down menu.



## Step 3

Start on the Red slider and increase this to +13. Then set Blues to +11. This adds that retro tone that makes your image look like it's out of the 1970s. If you're using your own image, you may need to adjust these numbers accordingly.




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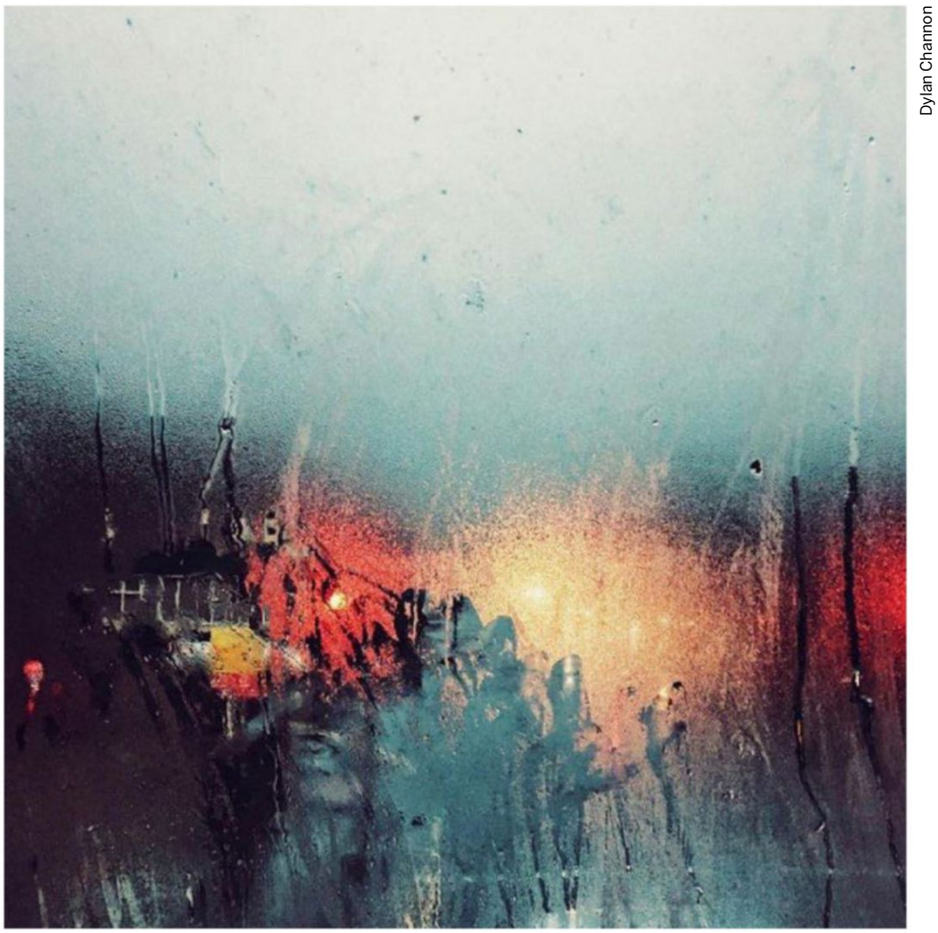
[PROJECT 7]

# Get creative Mobile phone photography

*Dylan Channon shares how he captured this abstract on a bus*

**BY WIPING the bus window, Dylan Channon created a unique photographic opportunity.** "I tried to wipe the windows to see where I was going, but the day was so dark and wet it had very little effect. I loved the way you couldn't make out the traffic, and the light blurred and distorted because on the condensation on the windows. I often take abstract images on my smartphone if I am bored, as you never know quite how they are going to turn out!"

**www.instagram.com/dylanchannon**



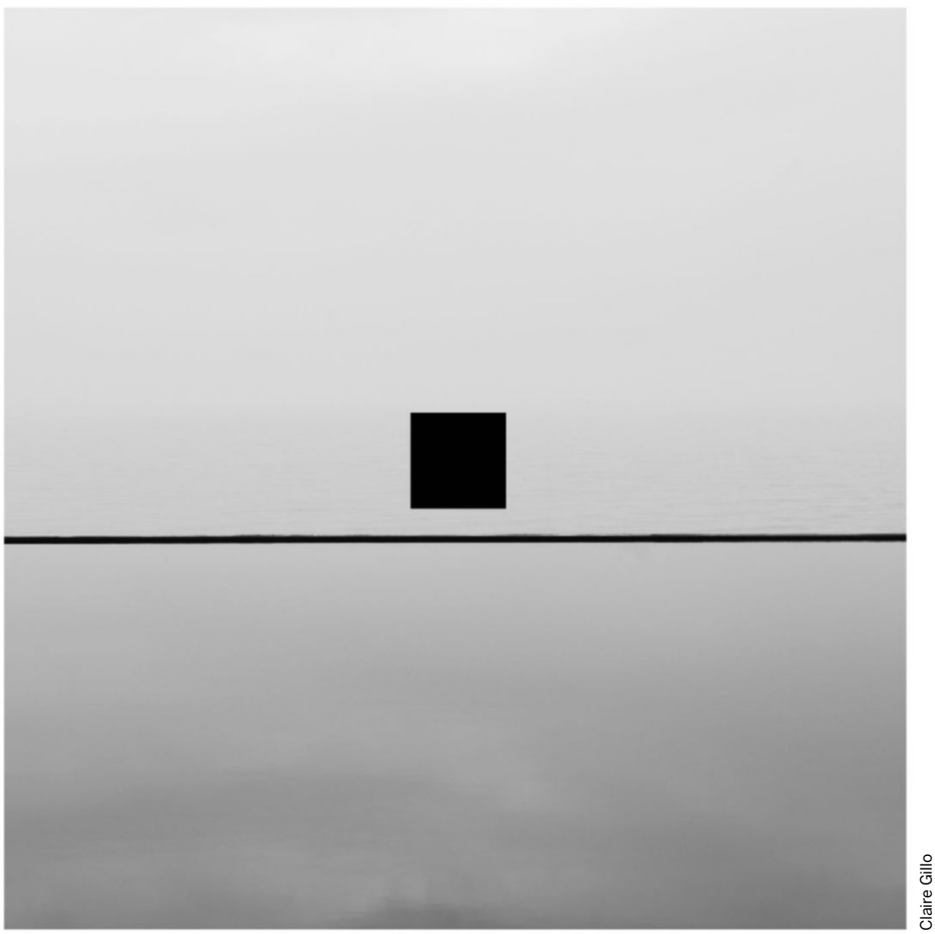
Dylan Channon

[PROJECT 8]

# Seascape Add a black arty box!

*Make your minimalist seascapes geometric*

**IF YOU want to take your minimalist seascapes to the next stage, try adding a black box on the horizon.** We took our shot at Clevedon on a misty, dull day and converted it to black and white. It was only when we were experimenting in Photoshop using the Rectangle tool that it occurred to us to pop in a black box! It immediately transformed the dull and minimalist seascape into a piece of fine art. Try experimenting with your shots and see what you can come up with!



Claire Gillo

NEW MONTHLY PHOTO PROJECT!

[PROJECT 9]

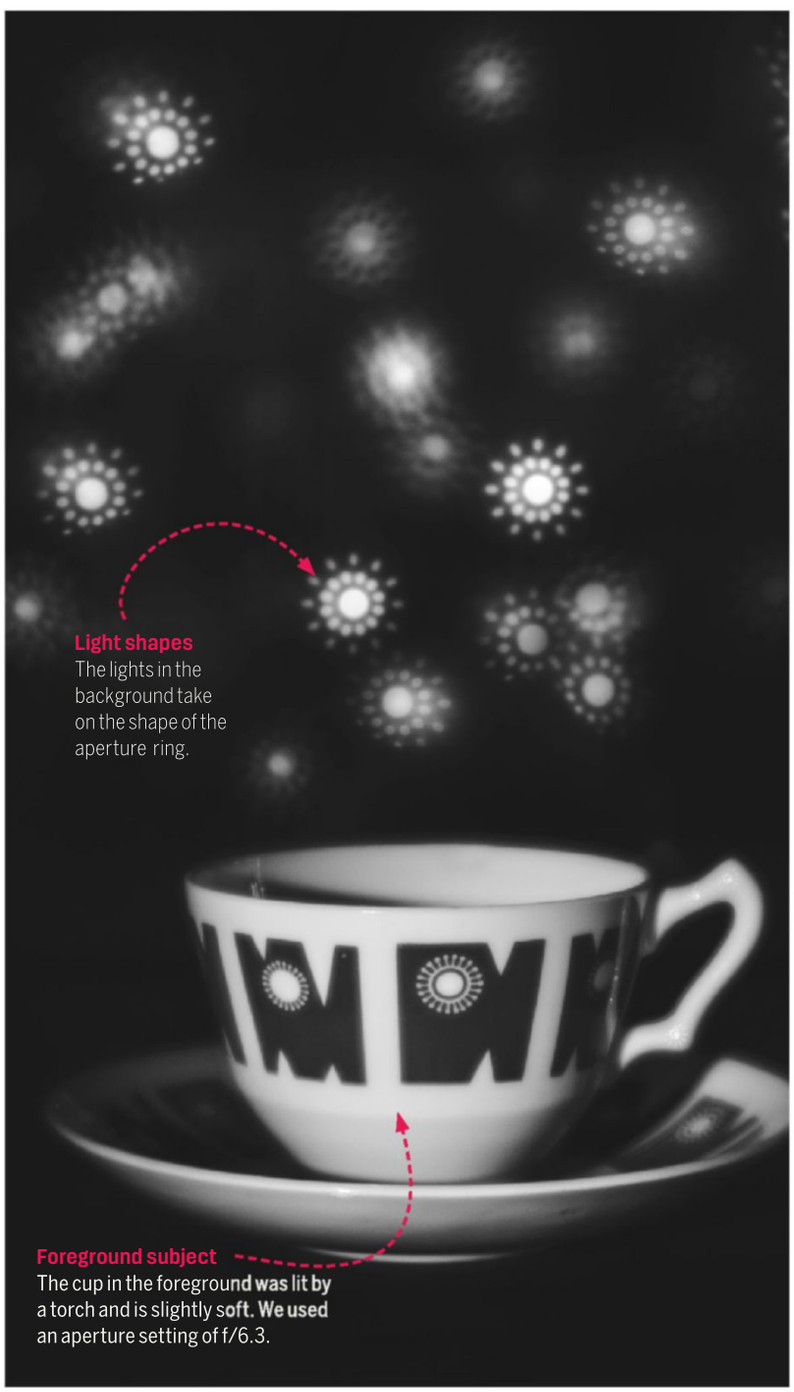
# Try this kit! Daguerreotype art lens

*Create a soft old fasioned look by using this specialised piece of kit*

**NAMED after Louis Daguerre, one of the 'fathers' of photography, a daguerrotype is a unique image taken on a silvered copper plate.** Lomography's Daguerreotype Achromat lens replicates its antiquated look and an be used with most digital SLRs or analogue cameras.

Using this lens is not quite as simple as attach and shoot, as many of your camera's usual settings (such as the autofocus) won't work. It can be a little tricky to use; the biggest adjustment is having to set the aperture manually.

We decided on a still-life scene so we could mount our camera onto a tripod and not worry about any moving elements. To make the bokeh shapes in the background, we set up fairy lights behind the cup and saucer, and inserted the f/6.3 aperture plate with a flower type design. **www.lomography.com**



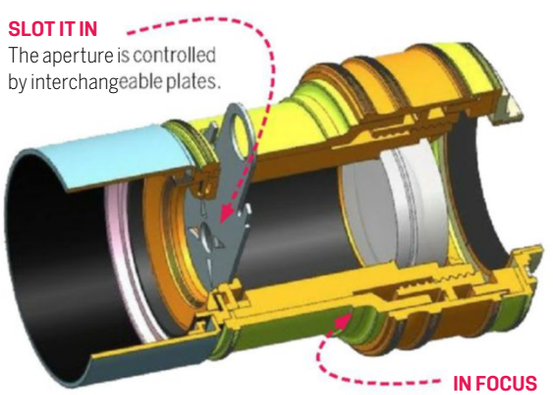

## Insert the aperture

**To change the aperture on this lens you need to select a plate and drop it into the allocated slot. The lens is provided with a range of aperture settings, and some are even shaped to create bokeh light shapes in the background. As the aperture setting and lens elements on your camera aren't connected, you'll need to take a few shots to get the exposure settings right. It helps to use your histogram to check that your shot is exposed correctly.**




## How it works

**The Daguerreotype Achromat 2.9/64 Art Lens is simple in design with very few moving parts and has a fixed focal length of 64mm on a full-frame camera. The aperture plate system (known as a Waterhouse stop system) means you can adjust the focus and look of your image. If you want a soft luminous glow in your shot, use an aperture plate setting between f/2.9 and f/4; if you want your subject sharp; use a plate from f/5.6.**




https://microsites.lomography.com/daguerreotype-achromat-art-lens/technical-information

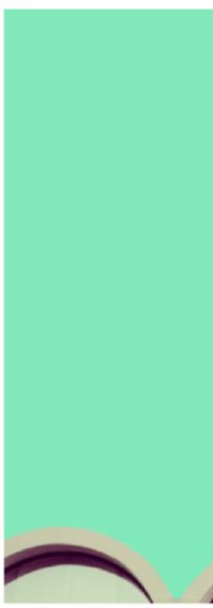
[PROJECT 10]

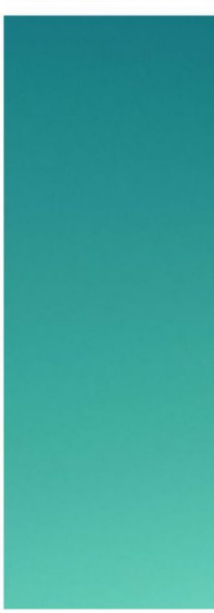
# Pro's challenge
# Make it minimalist

NEW MONTHLY PHOTO PROJECT!

*Embrace vibrant colours and simple compositions for a different take on city scenes*







**WHEN urban shooter Nico Goodden got bored of shooting traditional London street photography, he took a step back from the hustle and bustle to create this series of colourful architectural squares.**

"Busy streets, busy backgrounds, people, rush... it all became too much," he says. "This instead shows off the virtues of minimalism and embracing less is more. It was purely to try something very different – to not fall into the trap of always shooting the same things and getting too comfortable."

How did Nico approach subjects in a new way? "Looking up mostly, with the help of a telephoto lens. It's a great exercise, especially for those lacking inspiration – as we all do."

Nico has always loved the 1:1 aspect ratio, and arranged simple compositions for their calming qualities. "I tried to use only a third of the frame for the actual building and leave two thirds empty for the sky. I looked for colourful detail in buildings which I could isolate against the aqua background, or attractive lines which would gracefully fill my frame."

The sky isn't naturally turquoise, so why did Nico edit it in this way? "I just swapped the sky for an aqua. Later on, researching colours and their effects, I read that aqua is known for its soothing qualities..."

Want to try something similar? Nico shot over six months, but says the series was quite easy to put together. "Once you have the initial idea, it all flows and happens quickly." Consider the mood you want to convey, then tweak the hues in your scene to match!

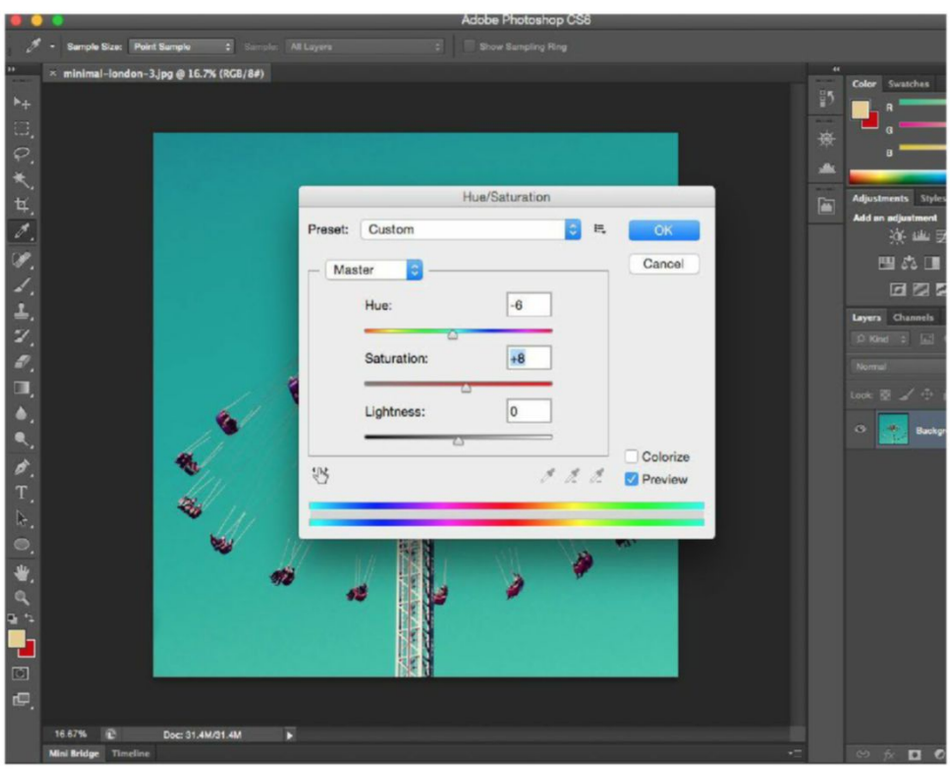
**www.nicholasgoodden photography.co.uk**



## Biography
## Nicholas 'Nico' Goodden

- London-based Nico specialises in urban and street photography.
- His work has featured in *The Guardian, The Evening Standard, The Huffington Post* and *Creative Review.*
- He's produced cinemagraphs and time-lapses for big-brand social media campaigns.

Twitter/Instagram
**@nicholasgoodden**




## Nico's steps to success

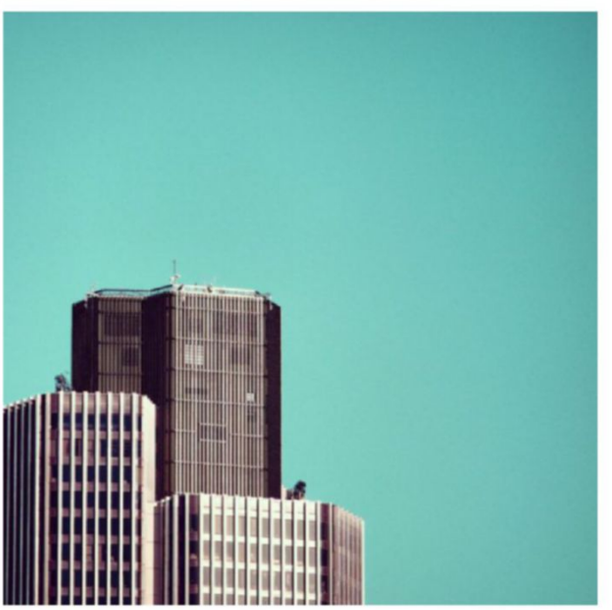
"You need a clear blue sky – probably the most demanding aspect in the UK," he says. "Always go for the lowest ISO, since you're in full daylight, and work with a 1:1 ratio in-camera, as this will save you time cropping later. Modern-ish buildings tend to work best; simple lines help achieve an end result that is cleaner and less busy in the details. The most technical bit is importing the images into Photoshop and moving the Hue slider."








UNDERGROUND



# A TO Z OF NIGHT PHOTOGRAPHY

*Feeling inspired but held back by the lack of daylight? We've got the ultimate fix for you! Follow our tips to become a creative creature of the night!* ***by Jon Adams***

## A is for Astro-photography

If there's one thing that makes us humans feel small, it's the stellar display arcing above our heads on a dark, clear night. Atmospheric conditions and proximity to towns and cities affect how many stars we can see, but if you can see them with the naked eye, you can capture them on your camera's sensor.

Shooting the night sky takes you into the realm of astro-photography. Although you can make a sizeable investment in highly specialised kit, capturing constellations and broad star fields requires nothing more than a SLR and a tripod.

Set a high ISO of 1,600, use a wide-angle lens set to its largest aperture, and set the exposure mode to Manual. Focus manually using Live View: to do this, zoom right in on the screen, scroll around to find a star close to the centre, and gently rotate the focusing ring until it appears at its sharpest. With the shutter speed dialled to 30 sec, take a shot. Check the sharpness on screen: if all looks good, welcome to the amazing world of astro-photography!



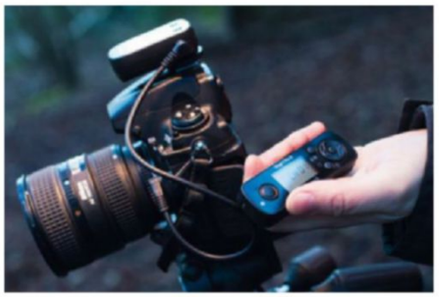
YOUR 9 **FREE** NIGHT SHOOTING TIPS CARDS

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With a high ISO setting and a long exposure, you can get started in astro-photography and capture amazing images of the night sky.



Mike Mezeul / milemezeul.com



## B is for Bulb

Night shooting requires long exposures to ensure that the faint light levels are recorded on the sensor. SLRs will take you to 30 seconds in Manual exposure mode, but there may be times when you require longer shutter speeds to record really dark scenes such as moonlit landscapes.

Using Bulb mode allows you to hold the shutter open for as long as you want, giving the light more time to register on the imaging chip. Holding down the shutter button for minutes at a time is uncomfortable and can lead to unwanted movement of the camera, so Bulb exposures are best carried out with a remote release. This allows you to press the button once to start the exposure, and once to end it, while you count off the seconds on a stopwatch.



John A Davis / Shutterstock

## C is for composition

Framing up a night scene is easy in well-lit towns and cities – but try it with a starry sky or a rural landscape, and you'll find you can't see a thing through the viewfinder. Live View mode can often reveal more, but you may still have to shoot test shots and check the screen to get the composition you want. This can take a while when exposures are 30 seconds or more, so it pays to have a bright torch to illuminate areas in the foreground to establish the edges of the frame. This is also useful for accurate focusing, as your AF will struggle to lock on to anything in very dark conditions.



fuyu liu / Shutterstock

## D is for Dynamic range

The difference between the smallest and largest quantity of the light a camera can record is the dynamic range. In night shots, the darkest tones are abundant, so getting detail in the shadows can result in the brightest tones burning out to pure white. To get detail at both ends of the spectrum, try shooting the same scene with different exposure settings, then blend the pictures together in software. For scenes that aren't so extreme, your camera's raw format records more detail across the tonal range.

## E is for Equatorial mount

Take an exposure longer than 30 seconds with a wide-angle lens, and you'll see that the stars cease to be points of light, and start to become streaks. Use a shorter focal length, and the magnification will make this effect even more apparent.



The earth's rotation is to blame for this. While it's a blessing to those who want to shoot star trails, it's bad news for anyone trying to capture longer exposures of the stars to reveal more detail.

To counteract this, serious telescopes use motor-driven equatorial mounts that slowly turn to keep the stars in the same place – and cameras can use the same kind of device. With prices starting at £350, equatorial mounts aren't cheap, but you can make a hand-driven DIY 'barn door' mount from two sheets of plywood and a few nuts, bolts and hinges. These work well for wide and standard lenses, and can track the sky for exposures up to 10 minutes.




## F is for Firespin

Place some fine gauge steel wool in the cage of an egg-beater, attach it to a metre of wire, and set fire to it with a turbo lighter, before spinning it round. It's a health and safety nightmare – but a popular technique for those daft enough to try it.

Before even thinking about it, make sure you're in a remote outdoor location with nothing vaguely combustible anywhere near. Wear safety goggles, a hat and cotton clothing that won't melt, and cover all exposed skin to reduce the risk of burns.

Set your camera on a tripod well away from the spin, and use Manual mode with an aperture of f/8, an ISO of 100 and a shutter speed of around 30 seconds. The results are spectacular as the molten strands fly off, but it can be dangerous – so be very careful!




## G is for Galaxy

The Milky Way is our home in the universe. On a dark, clear night, you can see the arm of this spiral galaxy as a faint glow. The brightest part – the galactic centre – is in the constellations of Sagittarius and Scorpius, and can be seen from the northern hemisphere between late March and early October. It's never too far above the horizon, so a wide-angle lens can include earthbound detail in the frame. During the winter, the dimmer part of our galaxy runs through the distinctive 'W' shape of Cassiopeia.

To get a shot of the Milky Way, use your widest lens and Manual (M) mode. Set ISO to 3,200 and use your largest aperture (the smallest f/number available). Set a shutter speed of 30 seconds, and use raw format for more flexibility when you process the shot.

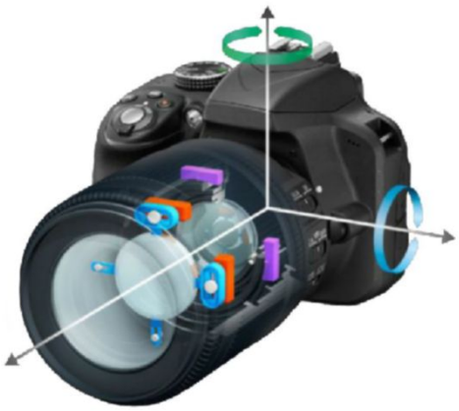
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## H is for Head torch

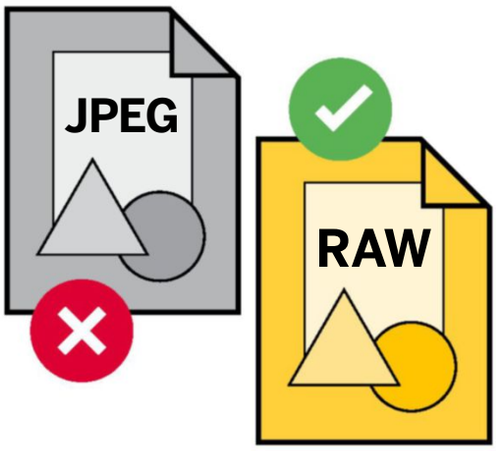
One indispensable accessory for night shooting is a torch that leaves you hands-free to set up your gear and operate your camera. A small head torch does this brilliantly; if you shop wisely, you can even get one with a variable-power main beam and a red LED light built in. The latter is great for tweaking camera settings, because if you use a bright white beam at close range, you'll effectively dazzle yourself and ruin the night vision your eyes have spent half an hour accommodating to.

Petzl's Tactikka+ (£40) and Alpkit's Viper 2 (£18) have all the above; either will become a regular part of your kit.



## I is for Image stabiliser

Many modern lenses have sophisticated image stabilisation systems: these give a real advantage in counteracting the blurry effects of camera shake when you shoot hand-held at slower shutter speeds. The optical stabilisers used in lenses can be effective down to 1/15 or even 1/8 sec, depending on the focal length used, but they start to work against you once you mount your camera on a tripod. The IS system is expecting movement, and if the camera is rock-solid, it'll feed back on itself and create blur. Always switch IS off whenever you place your camera on any support.




## J is for JPEG

JPEG is an image file format devised by the Joint Photographic Experts Group. It's fantastic at compressing big image files to make them more convenient to store on a memory card or send over email. But when you're shooting at night, you need all the quality and control your camera can muster, and this makes JPEG a poor choice for taking pictures in the dark. If you're shooting at night, use raw format instead. (See R for Raw).

## K is for Kit essentials

Batteries drain faster in cold weather *and* when you shoot longer exposures, so take a fully charged spare or two to see you through your shoot. Raw files take up more space on memory cards than JPEGs, so make sure you have a freshly formatted card in the camera, and a spare in case you fill it.

Clean your lenses before you set off, but take a lens cloth or clean microfibre towel with you in case you smudge your filters or lenses in the dark. A powerful hand torch assists with focusing, light-painting and finding your way home, but even more vital is a head torch. (See H for Head torch).

If you need help finding the right star, a smartphone app will make life easy. Planets is a free app for iOS and Android that gives a 3D view of the sky – just hold up your phone and look through the screen.





Jon Adams

## L is for Long exposures

To record a good exposure on your SLR, you need just the right amount of light to reach the sensor. This is controlled by three variables: aperture, ISO and shutter speed. The aperture is an adjustable hole in the lens that lets more or less light through; the ISO controls the light sensitivity of the chip; and the shutter speed governs how long the light is allowed to strike the sensor.

In very dim conditions, the only real option is to extend the time the sensor is exposed to light, so shutter speeds can extend to several seconds or even minutes. With such long exposure times, it's impossible to keep a hand-held camera still; so to record sharp shots, some kind of support is needed to lock the camera in place. Anything moving in the scene will become blurred, but in low-light and night photography, this can be used to creative effect.















## M is for Moon shots

As the largest object in the night sky, the Moon is a must-shoot subject for any night photographer – but rather than revealing lunar craters and seas, most attempts result in a blank white disc devoid of any detail. The Moon is much brighter and much faster-moving than you'd think, so you need to set up carefully to get a well-exposed shot.

You'll need at least a 300mm lens, but even longer is better if you can get your hands on a 500mm or a 600mm. Cameras with APS-C sensors have an advantage over full-frame models, as the sensor crop effectively magnifies the focal length by 1.5x.

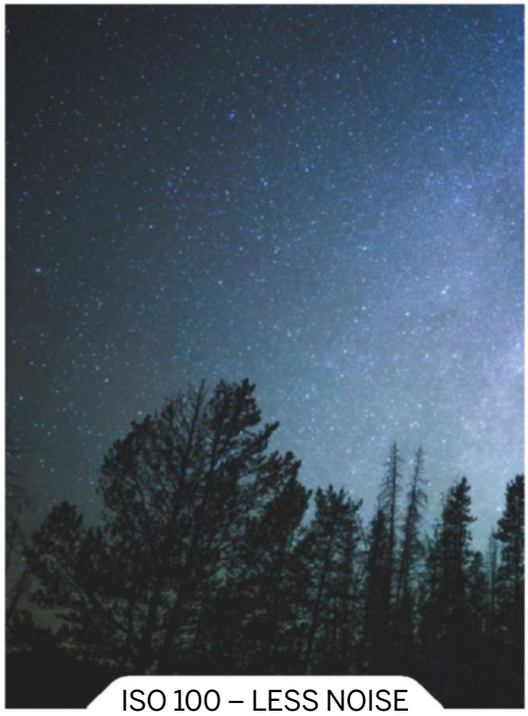
With the camera on a sturdy tripod, set the main mode to Manual (M). For a full moon, dial in an aperture of f/11 and a shutter speed of 1/125 sec, with the ISO set to 100. Focus using AF, but switch to MF to lock the focusing distance. If you have a mirror lock-up mode, engage it, as this will minimise any vibrations when the shot is taken. Use a remote release if possible; if you don't have one to hand, set the self-timer to 5 sec so you're not touching the camera when the shot is captured.

Take your shot and check the screen. If it's too bright, set the shutter speed to 1/250 sec and reshoot. If it's too dark, set the aperture to f/8. The important thing is to use a shutter speed of at least 1/125 sec. Frame up with Live View enabled and zoom in on the edge, and you'll see the Moon positively belting across the screen!

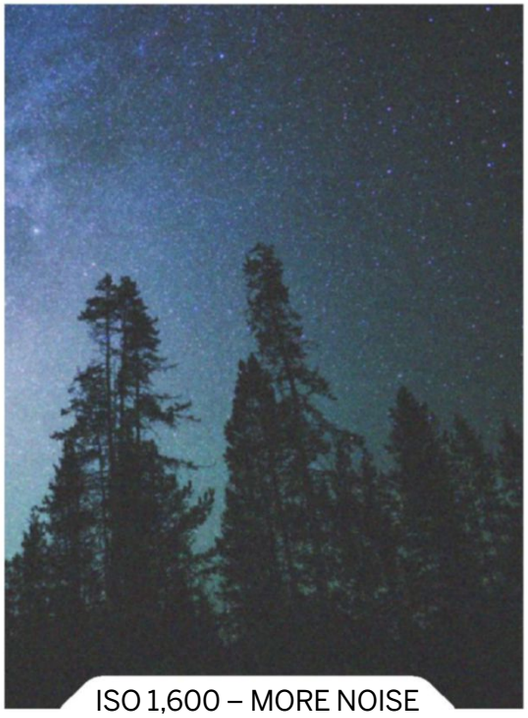
Shutterstock / Sascha Gebhardt

## N is for Noise

Noise is a grainy degradation in image quality that impairs fine detail and reduces colour saturation. It's controlled much better on modern cameras than on models that are a few years old, but as you increase ISO value to make the chip more sensitive to light, you also increase the noise in the image. To avoid noise in static scenes, use your lowest ISO value (normally 100), a tripod and a longer shutter speed to compensate. For moving subjects in dim conditions, you'll normally have to use a higher ISO setting to get a sharp shot, but the effects of noise can be reduced with noise reduction processing in raw software like Lightroom or Camera Raw.



ISO 100 – LESS NOISE



ISO 1,600 – MORE NOISE

The Adaptive / Shutterstock



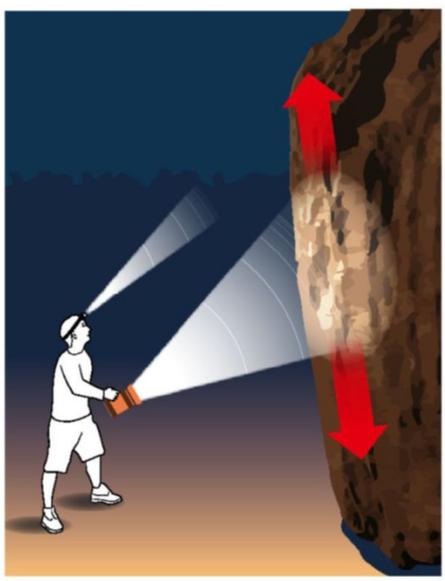

## O is for Optics

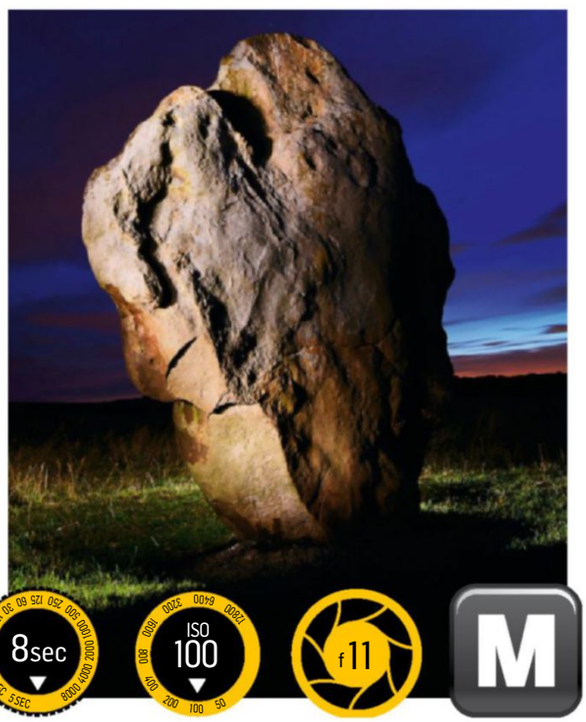
There's no 'right' lens for night shooting, but photographers specialising in low-light work often bias their choices towards 'faster' optics. These are prime lenses with a fixed focal length, and they have larger maximum apertures than equivalent zooms. They're less flexible when you frame up a shot, as you have to physically move the camera to change your composition, but they gather more light – a big factor in dim conditions. A 50mm f/1.8 prime lens is a popular first choice for many photographers is, as it's fast and the lenses can be very affordable. A Canon 50mm f/1.8 costs £106, and Nikon 50mm optics start at £118 for the AF-D model.

## P is for Painting with light

By shooting a long exposure while shining a torch, you can manually light a static subject. The longer the exposure is, the more time you have to move your torch around – but to avoid lighting the whole subject in one go, it's easier to lock off the camera on a tripod, and make several shorter exposures, lighting the subject in sections at a time. After you've framed up and focused, switch to MF to ensure the focus doesn't change, and use Manual mode with a shutter speed of 8 sec and an aperture of f/11. Set a self-timer delay of 5 or 10 sec to allow you to get into position with your torch, and play the light over the subject, using a different angle for each shot.

Provided you don't move the camera or alter any settings while you take your shots, it should be easy to combine them. Load all the pictures into a single Photoshop document as separate layers. Set them all to the Lighten Blend Mode in the Layers panel, and all your lighting effects will be switched on.






**When you paint with light, keep your torch beam moving all the time during the long exposure. This avoids creating hotspots and hard-edged shadows.**

## Q is for Quality, not Quantity

With night photography, it's best to concentrate fully on nailing a specific shot, rather than taking a bagful of gear and trying to shoot a barrage of different pictures. If conditions are right for star trails, for example, it'll take at least a few hours to capture the shots – and that's before you start processing. With traffic trails or industrial scenes, you only have a short window of about 40 minutes to get your shot if you want to record some colour in the sky. And if you take on a painting-with-light project, it's easy to spend half a night finessing your light trails and processing the results.

The approach is very different to more reactive photography disciplines, where you respond quickly to what's happening. So take your time, and look to do one shot well, rather than getting a brace of average images.



Fortune-stock / Shutterstock



John A Davis / Shutterstock

## R is for Raw

You'll be surprised at the amount of detail that lurks in the shadows of shots you take at night – and the best way to release this is to shoot in raw format. This special format takes the data straight from the sensor and allows you to process it in your own way, using software such as Adobe Camera Raw (built into Photoshop) or Lightroom.

As well as restoring shadow detail, you can also compress the highlights to effectively expand the dynamic range of the image, and can adjust the colour temperature too. Unlike with a regular image file format like JPEG, the colour data isn't fixed in a raw file, so the white balance of your scene can be changed by simply moving a slider. You can even adjust the overall exposure, so if you've undercooked your shot, you can increase exposure to rectify it.

Raw offers many other benefits, and for low-light and night images, its immense flexibility lets you get the maximum possible quality out of a picture. If you're more comfortable with JPEGs, then start shooting in raw+JPEG format. This will use up more memory card space, but you'll still have the familiarity of a JPEG.

### RAW FILE TYPES

**SLRs, CSCs and even some high-end compacts all have the ability to shoot raw files. While they provide the same benefits, each manufacturer has its own type.**

| Manufacturer | Raw format |
|---|---|
| Canon | CR2 |
| Fujifilm | RAF |
| Leica | DNG (Adobe) |
| Nikon | NEF |
| Olympus | ORF |
| Panasonic | RAW |
| Pentax | PEF |
| Sony | ARW |

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Jon Ingall / Shutterstock

## S is for Star trails

As the earth rotates on its axis, all the stars appear to revolve around a particular point. Draw a line from the south pole through the north pole and extend it into space, and this rotation point is occupied by a particular star – Polaris. With Polaris in the frame and a sufficiently long exposure, you can record the movement, because the stars will slowly arc round, and become streaks of light rather than points.

Really long exposures of several hours make this an amazing spectacle, but regular SLR sensors aren't designed to be exposed for such long periods. For better results, a 'burst' of shorter, 30-second exposures is more suited; the results are blended together as layers in Photoshop. With all the separate pictures stacked one on top of the other, the Lighten Blend Mode is applied to all layers except the one at the very bottom of the stack. This adds all the brighter pixels together, turning the short streaks into arcs of light.

To avoid pressing the shutter every 30 seconds for an hour or more, an intervalometer is normally used. This automatically fires the camera at a preset time interval, so you can leave it to get on with the picture-taking.


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## T is for tripod

When it comes to night shooting, there is no substitute for a good-quality set of sticks. Whether you're shooting the night sky, a street scene or a light-painted still-life, a tripod jumps the queue on every other accessory: nothing else affords you more creative options. If the weight, bulk or general faff of tripod usage bothers you, consider it as an integral part of your camera, rather than a separate piece of kit.

If you don't yet have a tripod, put it at the top of your wish list and buy the best full-size model you can afford. Pro-quality aluminium tripods with heads start at around £130 – a relatively small price to pay for the creative potential on offer.




## U is for Underexposure

Most night shots are underexposed by a stop or even two, because we judge the exposure captured using the image on the LCD screen for reference. As your eyes adjust to the dark, the screen appears much brighter than it really is, so it's common to undercook everything.

To get better night-time exposures, look at the histogram display in conjunction with the image. If the graph stops about two thirds of the way along, open the aperture or extend the shutter speed until it's close to the right-hand side. It may look too bright on location, but it won't be on your computer later.



## V is for Vehicles

An attractive flow of head and tail lights is a must for every photographer: captured using a long shutter speed, vehicle lights snake into a river of colour. Shooting from a vantage point like a footbridge is an easy way to capture traffic trails; but for the best results, get there just after sunset, when you can still capture some detail and colour in the sky.

Use a tripod to keep your camera still, and set your camera to Manual mode. Start with an aperture of f/11 and a shutter speed of 10 sec with your ISO set to 200, but be prepared to adjust the settings for the sky's brightness and the flow of traffic.

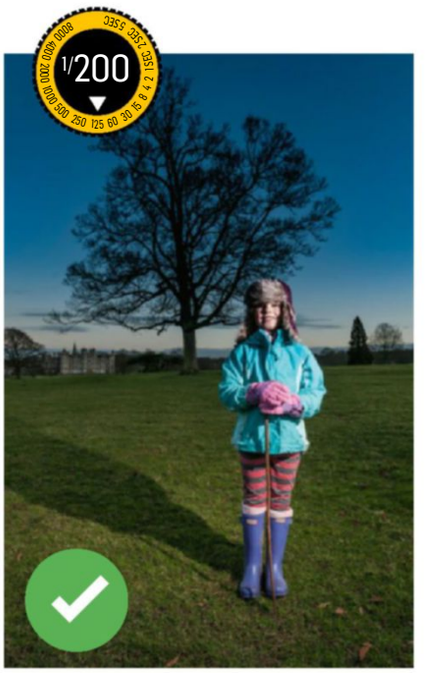
## W is for Wrap up warm!

You won't believe how cold you can get shooting in remote locations. When you're walking from location to location, you'll generate some body heat, but once you start on long exposures, you'll be almost stationary.

Wear lots of layers, topped off with a windproof jacket. A down jacket is even better: it's effectively a sleeping bag with sleeves. Wear a thin pair of gloves for dexterity when adjusting your camera settings, plus a thick pair to go over the top when waiting for exposures to end. Wear a hat to keep your head warm, and throw on thick socks: there's nothing worse than getting numb toes!






## X is for X-sync

Flashguns can add an extra dimension to night shots, but there's a ceiling on the shutter speed you can use. In an SLR, the shutter is like a roller blind: if it moves too quickly across the sensor when the flashgun is triggered, there won't be enough time for it to expose the whole frame to the light. The X-sync is the maximum shutter speed your camera can use with flash, and is normally 1/200 sec or 1/250 sec, depending on your camera model. Anything up to this speed will be fine, but exceed your X-sync and you'll see a black bar obscuring part of the picture. Check your manual to find out the X-Sync speed for your camera.




## Y is for You!

If you want to get sci-fi style selfies, after dark is the time to do it! There's no end of projects involving you, a tripod-mounted camera and a powerful torch, but a simple set-up that gives spectacular results is a backlit shot. With huge shadows acting as lead-in lines to your silhouette, plus a halo of rim-lighting to cut your figure out of the darkness, it's a must for any photographer.

Find a good, dark location, such as a piece of woodland. After you've composed your shot, decide where you're going to stand. To focus on this distance, tape your torch about waist-high to a light-stand or tripod; after you've focused on it using AF, switch to MF to lock off the focus. Mark the spot, then place your torch further away, so it's in the middle of the frame and shining directly at the camera.

Use Manual mode, select an ISO of 100 and set a shutter speed of 15 sec and an aperture of f/5.6. Use your self-timer with a delay of 10 sec; after pressing the shutter, go to your mark and assume your chosen position. Stay as still as you can until the exposure has ended, and check the results. If it's too dark, increase the ISO to 200 or 400, and try again. After a few attempts, you'll have a spectacular selfie, straight out of a blockbuster movie!

Mike Mezeul / milemezeul.com



## Z is for Zoom burst

The longer exposure times involved in night shooting allow you to get creative by moving the camera or changing the focal length while the shutter is open. If you rotate the zoom ring while the exposure is being made, light sources will become smears and streaks; you can vary the effect with the amount of zoom used or with camera movements.

For smooth results, start the zoom movement before pressing the shutter button, and continue zooming after the exposure has ended. With longer exposures of several seconds, you can also 'stagger' the effect by repeatedly zooming and stopping while the shutter is open. Results are abstracted and unpredictable, but give a very different way of seeing the world.



Yiucheung / Shutterstock

# BACK TO BASICS

TECH MADE EASY

## THIS MONTH:
# IN-CAMERA HDR

Discover how to expand the tonal range your camera can record in a single picture



HDR IMAGE



START IMAGES

**WIDER DYNAMIC RANGE:** In HDR mode, a camera will typically make three exposures – one average, one underexposed, (to retain details in the bright areas) and another overexposed (to reveal shadow detail).

**HIGH-DYNAMIC range photography: words that will send a shiver down the spines of many photographers.** It's fair to say that images of overcooked sunsets and landscapes with post-apocalyptic levels of saturation and glowing details have tarnished the image of this technique. But, applied with subtlety, HDR is a useful tool for taking photos where the brightness range is high, say when you're shooting into the sun or trying to record detail in both a window-lit interior and the daylight scene outside.

Without HDR, the chances are that you'll end up losing some detail in the darkest part of the photo, the brightest parts or both. That's because a digital camera sensor can only record detail across a fixed brightness or 'dynamic' range, and the dynamic range of high-contrast scenes can be much wider. You may not be able to find a single exposure that can record both the darkest and brightest areas because the difference between them is too great.

There are steps you can take to squeeze the dynamic range of a high-contrast scene into the dynamic range of the camera's sensor, such as using graduated neutral-density filters to darken a bright sky in a landscape shot, or adding flash or other lights to bring the exposure value of a window-lit interior closer to the exposure value of the daylight scene outside. Shooting raw, which can cope with a wider dynamic range than JPEG and is more tolerant to brightness and contrast adjustments when you process an image, helps too. >

# DYNAMIC RANGE EXPLAINED

Use the histogram to assess whether you need to shoot an HDR image

**THE histogram on your camera's display tells you everything you need to know about the brightness range in your scene, and whether your camera can capture it.**

**1** The width of the graph represents the dynamic range (brightness levels) that your camera is able to record.

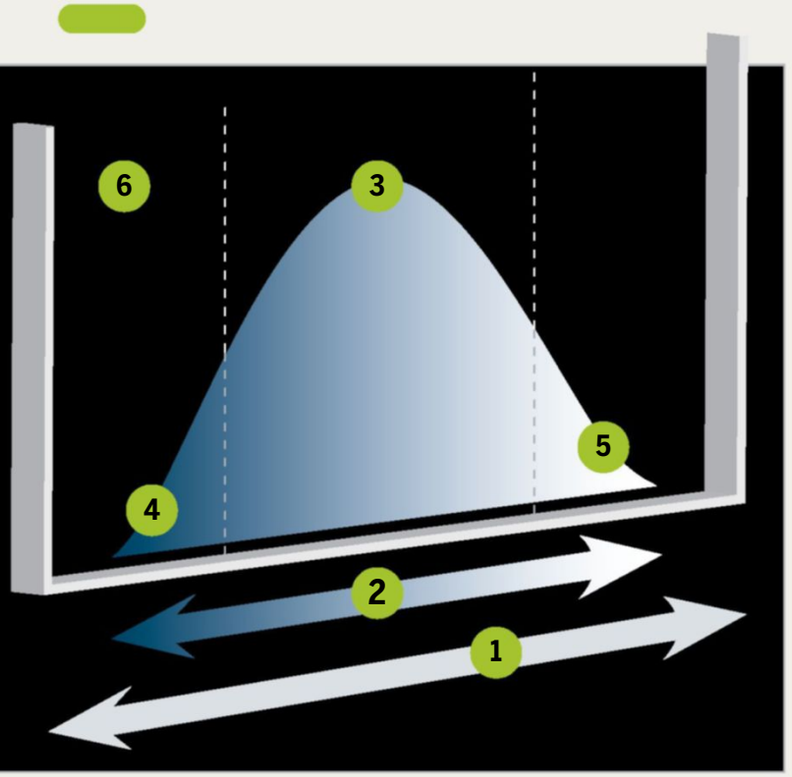
**2** The dynamic range of the scene you're photographing is indicated by the width of the histogram. If the histogram doesn't fit on the graph, you may need to remedy this.

**3** The height of the histogram indicates how many pixels have registered each level of brightness.

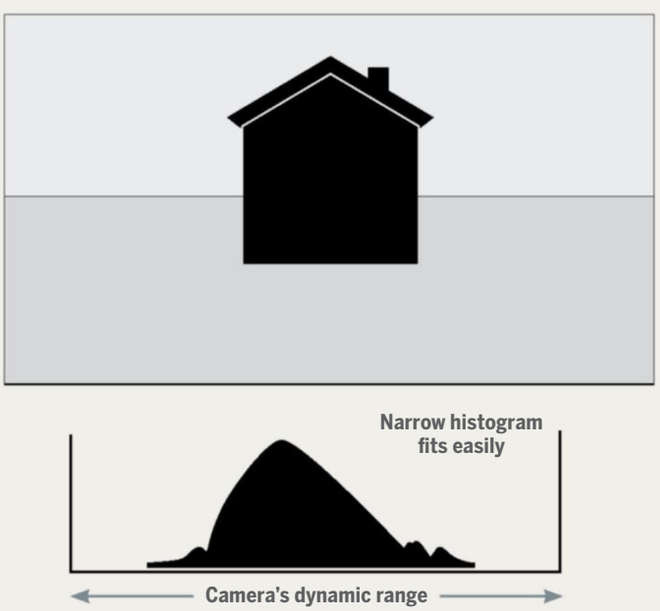
**4** The left side of the graph represents the shadows or dark areas of a picture.

**5** The right side of the graph represents the highlights or bright parts.

**6** If the histogram is bunched up against both sides of the graph, you risk losing details in both dark and bright parts of a picture; an HDR image may help in this case.

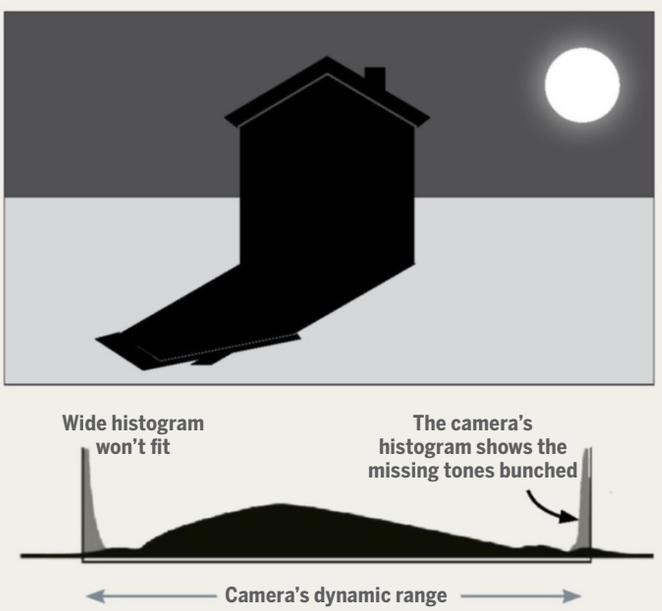



## HISTOGRAM SHAPES




### LOW-CONTRAST SCENES

With average subjects, the histogram peaks in the midtones, in the middle of the graph. Without any particularly bright or dark areas, you have more exposure latitude, and HDR imaging won't be required.




### HIGH-CONTRAST SCENES

When there's a big difference between the brightness values in a scene, the histogram may be 'clipped' off at either side of the graph. The darkest areas will become pure black, the brightest pure white.

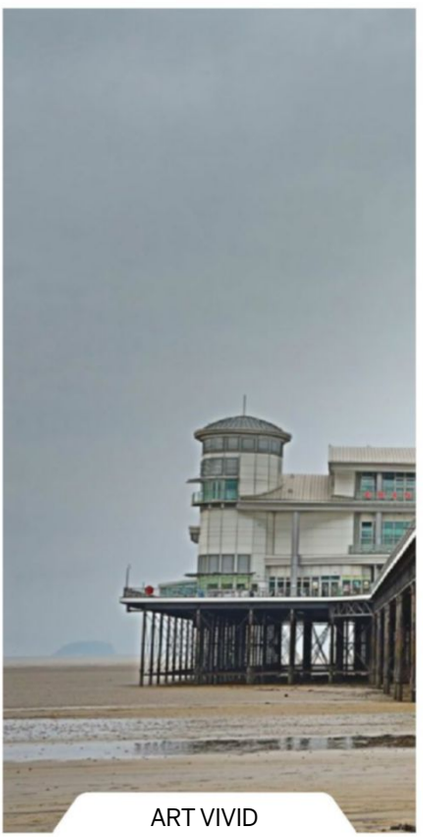



# ARTY EFFECTS

## Decide on the look and feel of an HDR photo before you take the start images

**HDR pictures can look more subdued than a standard exposure, as the shadows and highlights have been respectively opened up and reigned in, lowering the contrast as a result**. You may find that your camera has a variety of HDR effects or modes that attempt to add some impact to the final image. For instance, more advanced Canon EOS cameras offer four 'Art' effects in addition to the more subtle Natural look. The results can be interesting to say the least, with the more extreme Art embossed effect likely to appeal to only the most hardcore HDR advocate. You'll need to set the effect before you start shooting in HDR mode, as the look is baked into the final JPEG and you won't be able to undo it.

If your camera preserves the original bracketed exposures in addition to the final image, you can experiment with different looks later.


ART VIVID


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HDR photography extends the dynamic range of an image using multiple exposures rather than trying to reduce the dynamic range in one shot. The technique involves shooting a sequence of shots at different exposures, then blending these frames in software. The final image has detail visible from the shadows through to the highlights.

It can be time-consuming, but many cameras offer a dedicated HDR mode that can do all of this for you while you shoot. Not all cameras approach the task in the same way: some cameras require you to shoot JPEGs rather than raw files, while others let you shoot in raw but spit out a final HDR image in JPEG format. The number of exposures a camera makes before producing the final HDR file can vary, and you might be able to save the source files to the memory card as well as the final image.

Some cameras let you shoot in raw but spit out a final HDR image in JPEG

# PROBLEMS TO AVOID

Shooting separate exposures that will be merged together requires attention to detail, and consistency from shot to shot

**ONE of the problems you'll encounter when you use a camera's HDR mode is that the final result can appear a little flat at times – not surprisingly, as the camera is essentially reducing the contrast between the brightest and darkest parts of a scene.** While you can share an image straight from the camera, a little extra image editing may be needed to perk things up.

You may find that the camera's automatic bracketing function doesn't go far enough to open up the shadows or hold onto detail in the highlights, so you may need to use the manual settings or dial in some exposure compensation. But the most important thing to remember about HDR mode is to keep the camera in the same position while it takes the original exposures.

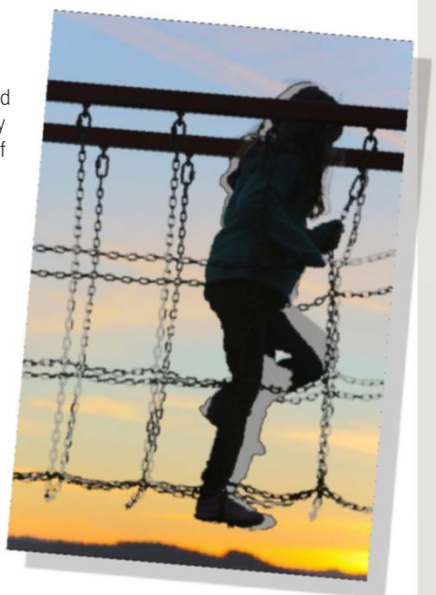


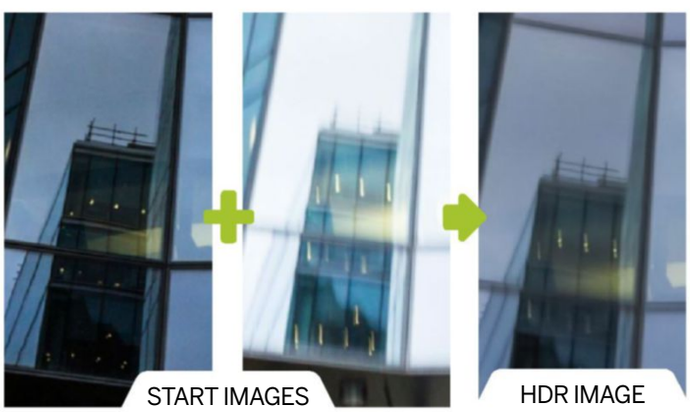

## FRAMING TOO TIGHTLY

**Problem:** Some cameras can automatically align hand-held shots, but crop the HDR image slightly when they do so.
**Solution:** Compose shots looser to account for this, or switch off the automatic alignment and use a tripod to keep the camera still.

## GHOST IMAGE

**Problem:** The final merged HDR photo shows a ghostly outline around the edges of moving objects.
**Solution:** Although you can shoot HDR images when there's movement in the frame, you'll need to use a fast shutter speed to ensure the source images are captured close enough together that there's no obvious overlap. Use the camera's fastest continuous drive setting so that you can take the shots in quick succession too.








## CAMERA SHAKE

**Problem:** If the camera moves when you're shooting a source image then, at best, you'll end up with a soft HDR image; at worst, the final image will be impossible to align. Take a look at the shots here, and you can see the final image shows signs of motion blur.
**Solution:** Use a tripod and trip the camera shutter using a remote release to ensure you don't nudge the camera between frames. If you're shooting hand-held in low light, increase the ISO setting to guarantee the shutter speed will be fast enough for sharp results when you take the 'shadows' shot (which will require the longest exposure).

# IMAGE ANALYSIS
WHY SHOTS WORK

## ENCHANTED BAMBOO FOREST

| | |
|---|---|
| **NAME:** | Kei Nomiyama |
| **LOCATION:** | Shikoku, Japan |
| **KIT:** | Canon 5D Mark III with EF 50mm f/1.8 II lens |
| **EXPOSURE:** | 30 sec at f/2, ISO 1,600 |
| **WEBSITE:** | http://keinomiayma.smugmug.com |



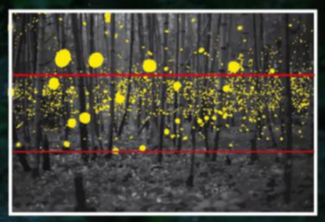
### Burning bright
This enchanting scene works because Kei photographed the luminescent fireflies without overexposing them. The histogram is skewed to the left, which preserves the insect's glow. Kei says he purposely avoided a long exposure: "The background of the photo would be taken brightly, but the little shine of firefly would be crushed."




### 50mm lens
Kei has made the scene intimate by choosing a 50mm lens, and the viewer is encouraged to focus on the fireflies. This focal length matches the perspective of the human eye, which is why the image appears natural and unforced. "When I'm looking at this view, I can feel calm and relaxed," he says.



### Dancing in the moonlight
Kei faithfully captured the subtle moonlight that gives the scene its magical quality. By combining an ISO of 1,600 and an aperture of f/2, he ensured that just enough light reached the sensor, and the forest could still be seen. "I took several photos by using a composite technique," he says.

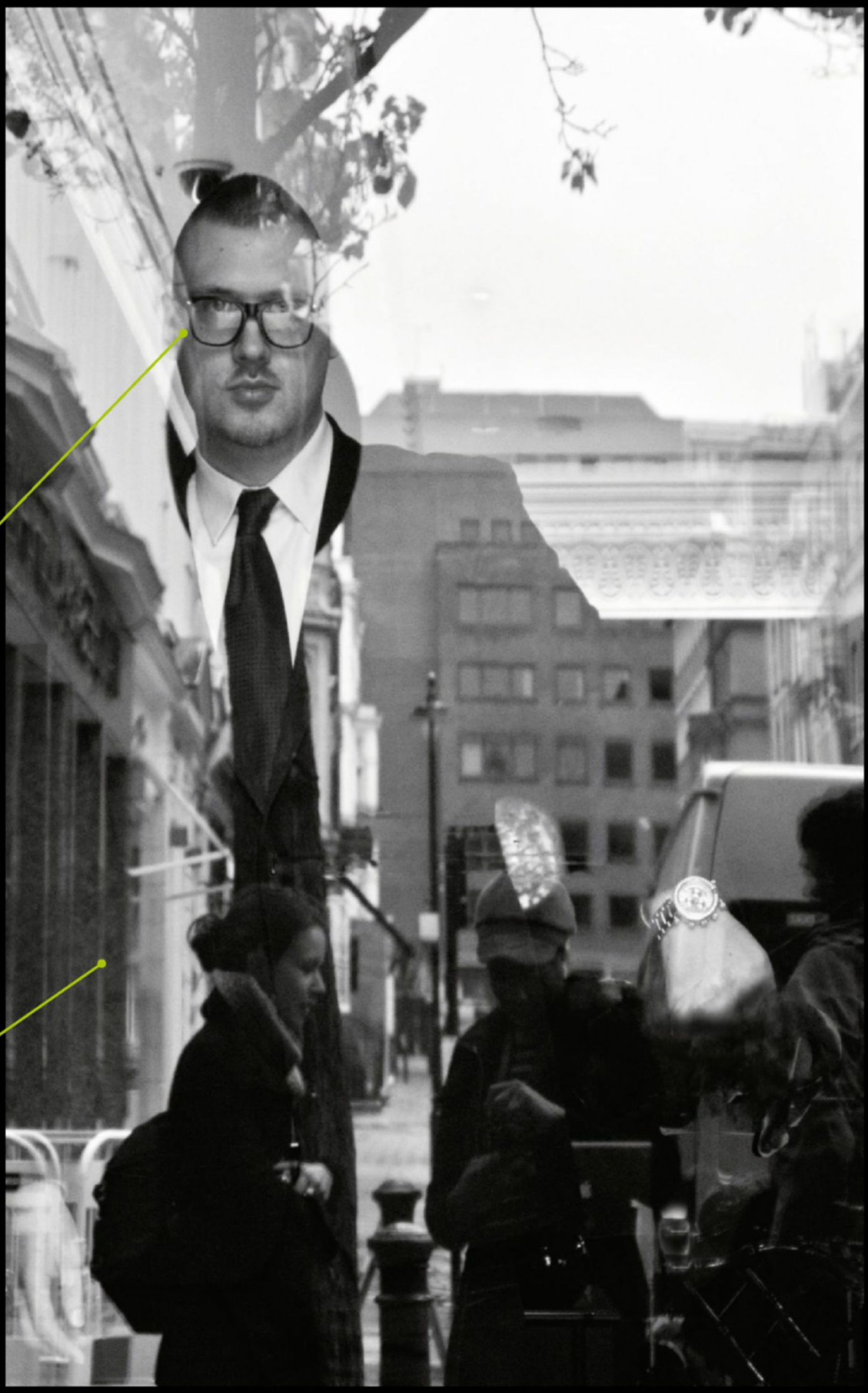


## Close encounters

The 'rule of thirds' doesn't always follow, but here it's been used to draw the viewer's attention gently to the fireflies. Kei says being at the scene made him feel calm and relaxed – and by positioning the subject in the central third, the composition is balanced, unchallenging and calming to look at.

# MAYFAIR REFLECTIONS

| | |
|---|---|
| **NAME:** | Linda Wisdom |
| **LOCATION:** | London, UK |
| **KIT:** | Panasonic Lumix G3 with 14-42mm lens at 42mm |
| **EXPOSURE:** | 1/160 sec at f/5.6, ISO 800 |
| **WEBSITE:** | www.lindawisdomphotography.co.uk |



## Making eyes

This street shot is effective because it records an off-guard moment. The direct gaze draws the viewer in and provides a focal point. "You are connecting the viewer to the subject on a one-to-one level if they are looking at you and not a camera," says Linda. "If he had caught me a split-second sooner, the moment would be gone. I had to work quickly and covertly."

## New dimensions

The reflections in this shot are intriguing, and the layers of content give the photo more context. "Shooting through glass adds an element of texture, and the reflective abstracts help make the image much more compelling," says Linda. "I find it interesting to look at a photo and notice something I hadn't seen previously."




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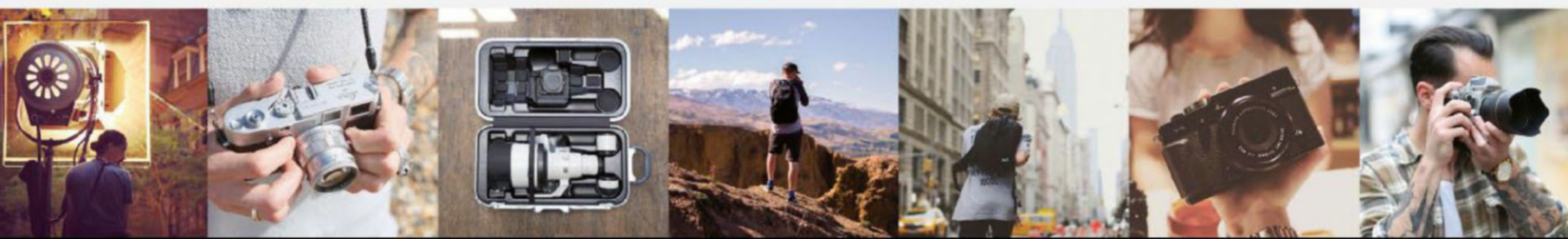
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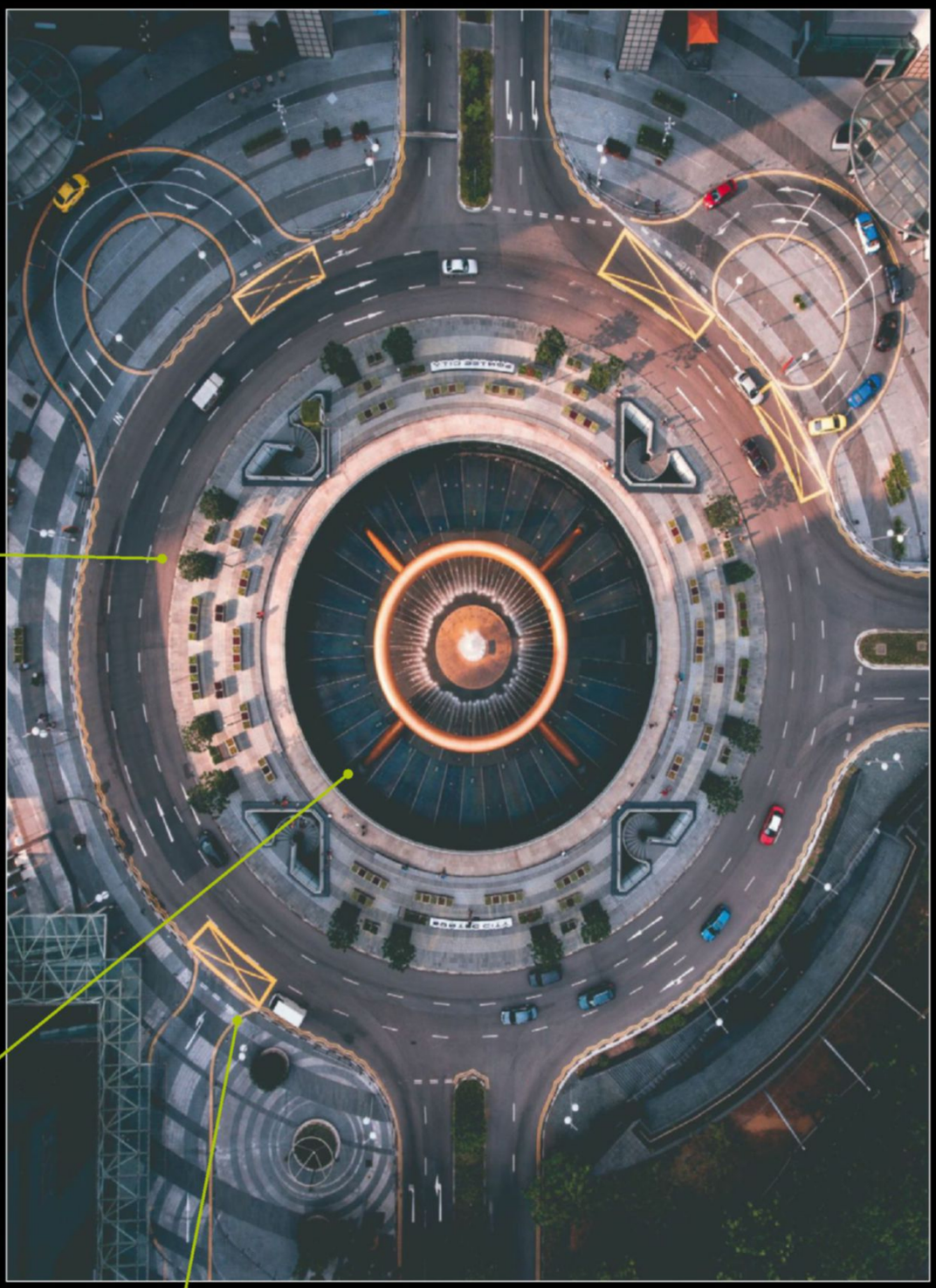
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# CIRCLE TRACK

| | |
|---|---|
| **NAME:** | Yik Keat Lee |
| **LOCATION:** | Singapore |
| **KIT:** | Canon EOS 6D and DJI Phantom 4 drone |
| **EXPOSURE:** | 1/250 sec at f/2.8, ISO 100 |
| **WEBSITE:** | www.leeyikkeat.com |



## Edit for effect

Aerial photographs by nature can sometimes be flat and lifeless. By shooting in the late afternoon when the sun was setting, Yik has overcome this problem. The low-lying sun generates long shadows, and these add a sense of depth to a two-dimensional perspective. By increasing the Contrast and Clarity amounts in Camera Raw, Yik further enhanced the textures and details in the scene.

## Symmetry success

Yik's composition stands out immediately because it focuses on repeating shapes. He flew his drone to 134 metres high and precisely manoeuvred the camera to frame the image. "The fountain in the middle provides good symmetry, and an interesting shape from above," he says. It becomes a successful central focal point in a graphic composition.



## Surprising warmth



The roads and pavements are made up of grey tones, but because Yik shot during the 'golden hour', he rendered a warm and vibrant take on the scene. Bold splashes of colour from the tiny cars burst off the page, and add energy to a shot that could otherwise have been very drab.




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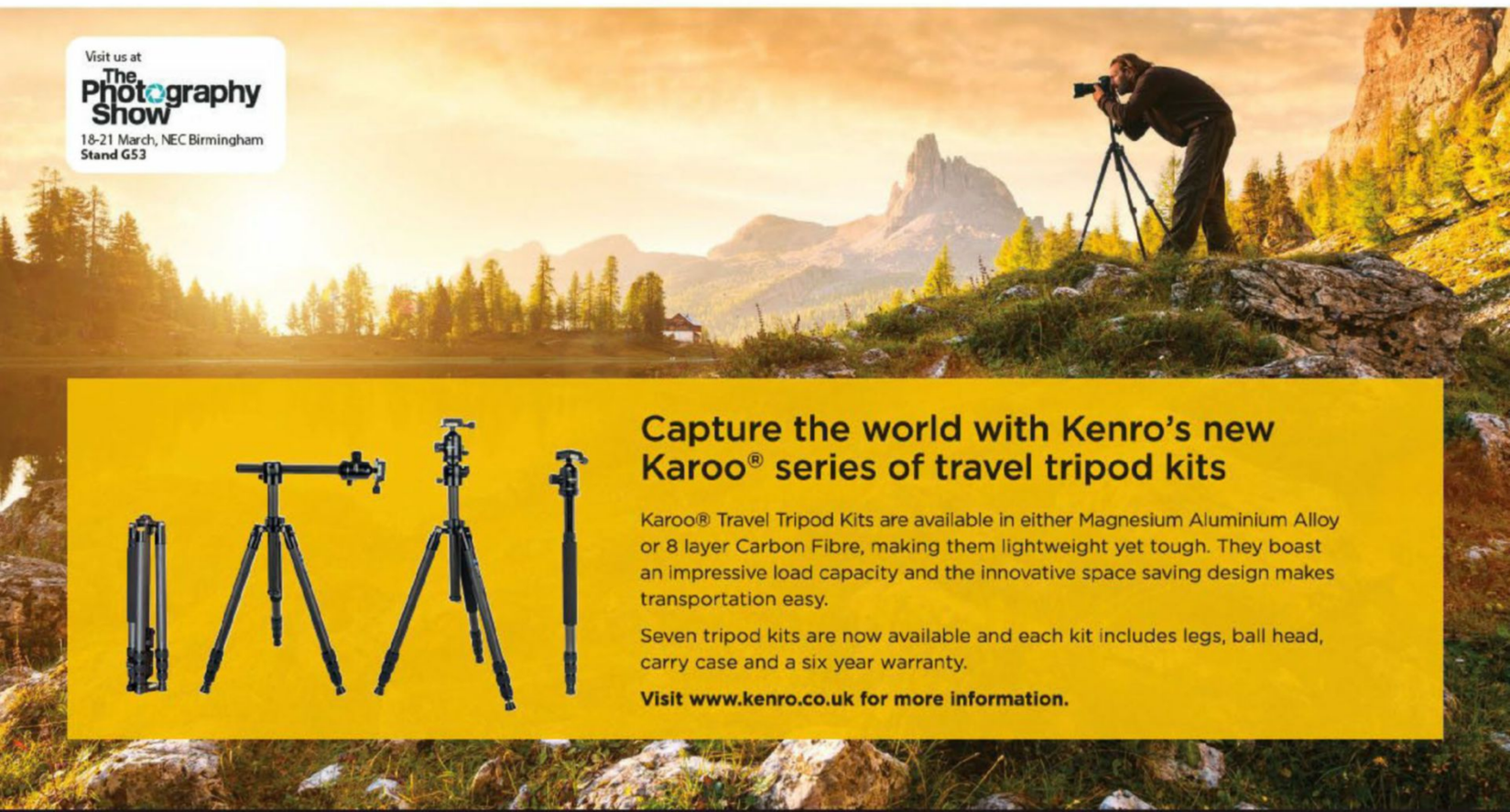
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## SHOOTOUT

**72** Digital Camera readers in the ancient Avebury landscape



78

## PORTFOLIO

Young and aspiring photographer Seanen Middleton showcases his surreal images and shares his ideas



80

## PHOTO ANSWERS

Andrew James is on hand to answer your technical questions and queries – and rate your images



86

## ASSIGNMENT

Our city at night winners are unveiled, and we launch a new competition that gets you thinking about composition

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# DigitalCamera SHOOTOUT!

*We challenge two Digital Camera readers to take part in our latest photo assignment*



## ANCIENT LANDSCAPES

This month, Ben Brain invited two readers to join him in the village of Avebury, home to Europe's largest stone circle, for a Shootout steeped in history as well as rain...



### READER 1



**Barry Simmons**

**CAMERA:** Nikon D5300

**LOCATION:** Swindon, Wiltshire

**DESPITE living a stone's throw from Avebury, Barry has never been to shoot the ancient monument**. Although the weather would be slightly challenging, spending a day shooting the landscape would give Barry the chance to pick the brains of the other photographers and explore the settings of his D5300, as well as techniques such as zoom bursts and panoramas. He would be using a Tamron 18-270mm zoom, so he'd have lots of in-camera cropping options at his disposal.

Barry is an active member of the Swindon Photographic Society.

### READER 2



**Steve Norgrove**

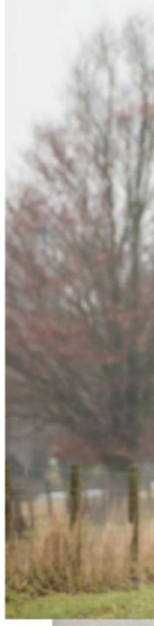
**CAMERA:** Canon EOS 5D Mark III

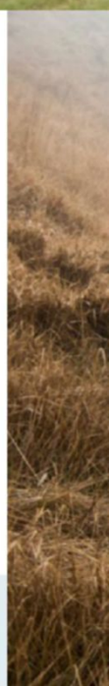
**LOCATION:** Hereford, Herefordshire

**STEVE works as a** Communications Officer in the Reserve Army, serving with the Royal Monmouthshire Royal Engineers (Militia). He took up photography with a view to having something to occupy his time when he eventually retires, and saw this Shootout as the perfect excuse to explore a location that's been on his hit list for a long time.

Steve brought his Canon 5D Mark III, complete with two 'L' lenses: a 16-35mm f/4 and a 24-70mm f/4. Both lenses include stabilisers, but Steve also used a Manfrotto 190 tripod to guarantee sharpness.







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CHALLENGE 1

# Shoot a portrait of standing stones



**Kit** Nikon D5300 with Tamron 18-270mm f/3.5-6.3 lens at 140mm **Exposure** 1/90 sec at f/6, ISO 500



Barry

**AVEBURY'S stone circle is world-famous for good reason: it gives Stonehenge a run for its money on sheer scale alone**. So it can be hard to know where to start when faced with these grey shapes on a grey day, and how to make sense of them photographically.

To get warmed up, we focused on abstracts and close-ups. Visiting in winter meant we had the place pretty much to ourselves, so we could get close without blocking other people's views in the process.

The ridges, fissures, holes and lichen on the rocks offered a feast for close-focusing lenses; Barry had a Sigma macro, but stuck with his 18-270mm much of the time, as shooting at the wide end allowed him to get nice and close to a stone while including background details.

## Expert opinion

- Barry's used a classic rule of thirds composition to create a nicely balanced arrangement.
- The organic shapes, with the rounded lichen and weathered holes, are satisfying.
- Pushing the clarity and blending the original shot with a mono version have added bite.

## Shooting textures

**The weathered surfaces of the shapely stones provided a superb array of textures, details and patterns to pick out. Working close to the surface resulted in a shallow depth of field, which often wasn't enough to keep the entire expanse of small-scale terrain sharp. One technique to try in this situation is to stand further away, as depth of field increases with distance, and crop the shot to a tighter composition later,**





SHOT OF THE DAY



**Kit** Canon EOS 5D Mark III with Canon 24-70mm f/4 lens at 70mm **Exposure** 1/125 sec at f/8, ISO 100



## Steve

**BLUE skies are boring.** That's what you have to tell yourself when faced with a curtain of drizzle and sticky grey light on a late January day in England. Still, the conditions suited the character of Avebury down to a tee.

"Having passed through the place many times without the time to stop, this was the opportunity to get up close and personal with the stones I'd been looking for," says Steve.

Dealing with people passing through is one of the trickier aspects of shooting here: trying to find an angle that doesn't include a white van or road sign in the background takes time. "I wanted to capture the leading line of the stones at this location," says Steve, "and I tried panoramic shots as well as tighter crops." His versatile 24-70mm zoom lens allowed him to rattle through a range of framing options quickly.

### Expert opinion

- Steve's identified a lovely spread of stones here; we like the equal gaps.
- The glimpse of road on the right draws the eye, but moving would have revealed a set of steps in the background.
- The airy treatment suits the misty day and the location.

## Framing stones

**Finding an angle that both complements the stones but doesn't include an intrusion in the background can prove to be a bit of a headache! One solution is to embrace the clash of modern life and prehistory, and include both. Alternatively, find an angle where the stones obscure distractions. Shoot hand-held, otherwise you'll probably be less inclined to explore all the angles.**



TOP TIP



# Capture a moody image of trees



**Kit** Nikon D5300 with Tamron 18-270mm f/3.5-6.3 lens at 18mm **Exposure** 1/125 sec at f/5.6, ISO 500



## Barry

**FOLLOWING the path around the site, we arrived at this spectacular cluster of trees, with an exposed tangle of roots that could have been lifted from the pages of a Tolkien novel.** By now the rain had really set it in and we were having to clean the front elements of our lenses after almost every shot; but the bright light picked out the wet roots, and everyone set about capturing them from a low angle using wide-angle lenses.

Barry tried a variety of different compositions, using the full range of his 18-270mm zoom. He was keen to shoot a panorama, but we prefer this single frame, where the balance between the roots and branches was spot on.

We also suggested he try converting the original colour raw file to black and white, where the contrast and details would take on a more dramatic form.

### Expert opinion

- This shot just wouldn't have worked as well on a sunny day – that white sky forms the perfect stark background.
- Barry's crop allows the roots and branches to reach out beyond the frame.
- Barry's successfully expressed the mood of the place.

## Kit care

Don't be just a fair-weather photographer: rain's where it's at! Shooting in the wet gives you the chance to take shots that few would be prepared to take, and show a location in a new light. Weather-sealed cameras and lenses obviously help, but fitting a lens hood and taking several cleaning cloths can keep your lens's front element and camera pristine.







**Kit** Canon EOS 5D Mark III with Canon 24-70mm f/4 lens at 70mm **Exposure** 1/125 sec at f/4, ISO 400



## Steve

**SOMETIMES you don't have to venture far from the car to seize a photo opportunity.** After spending most of the day shooting in Avebury, we decided to try our luck with one of Wiltshire's iconic white horses, just down the road at Cherhill.

You could barely see your hand in front of your face, let alone a hoofing great equine figure cut into the hillside, so it proved a bit of a washout. But close to where we parked our cars alongside the busy A4, there was a lone tree that begged to be shot against the foggy backdrop.

"I'm attracted by the shape, majesty, intricacy and symbolism of trees," says Steve. "This example seems to be saying, 'Come what may, I will always stand proud and strong.' Yes, it's the classic lone tree in a field, but I couldn't resist. I chose spot metering so the camera's exposure system wouldn't be fooled by the bright background."

## Expert opinion

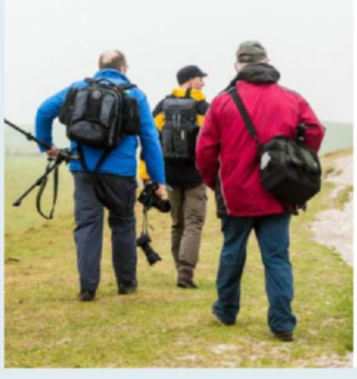
- Lone tree shots are ten a penny, but this tree's shape and the cool conditions really lift this one.
- Steve's found a great angle, with the lines across the field adding subtle detail.
- We love the soft colours too, and overall the effect is very calming.

**NEXT MONTH**
Head into the wilds of Wales



## Processing

**The stones' curves were accentuated by the glossy coating left by the drizzle. To add punch we boosted the Clarity, Contrast and curves when processing the raw files, as well as adjusting the brightness of the lichen's yellows, oranges and greens.**



## Bagging up

**Although we didn't have to walk far to photograph the stones, using a backpack makes sense for this type of shoot: it'll be more balanced than a shoulder bag, and make it easier to try out angles without having to leave the bag on wet grass.**

# PORTFOLIO

*Young photographer Seanen Middleton shares why he likes to capture the darker side of life*

| | |
|---|---|
| **NAME:** | Seanen Middleton |
| **LOCATION:** | The Lake District, UK |
| **SUBJECT:** | Portraiture/Photoshop |
| **EQUIPMENT:** | Nikon D600, 35mm f/1.8 lens, 50mm f/1.4 lens, tripod and remote |
| **WEBSITE:** | facebook.com/SeanenMiddletonPhotography |



**24-YEAR-OLD Seanen Middleton describes his work as intimate, tenebrous, romantic and human.** His style is emotive, surreal, and at times macabre, deciding to focus on the darker side of life rather than wanting to capture a pretty picture. "There is a certain magic about being able to look at something considered dark, scary or hopeless, and transform it into art," he says. "I think it has its therapeutic benefits too, being able to draw from a bad, traumatic experience or fear and process it creatively. It takes that pain or anxiety and turns it into something positive and tangible. There is a strong sense of fulfilment in doing that."

By the age of 15, Seanen was a troubled teenager. "I was desperate for some kind of artistic outlet to express myself,' he says. "I tried painting, sketching, music... None of it really clicked until I stumbled across the Flickr community online. There I was exposed to all kinds of incredible photographers who were creating all sorts of surreal, dark, angsty images, and I just knew I had to give it a try."

Thanks to his dad, who saved up his pennies and surprised him with his first SLR, Seanen was able to begin his photographic journey. "I started experimenting with all sorts of styles, resulting in me discovering self-portraiture. This became my niche, as I used myself within images to create a visual diary of my thoughts, dreams and emotions. I continued this for a few years, developing a style that is still noticeable in my present work."

As Seanen's grown older, he says his perception of the world has expanded. "I started to transcend self-portraiture and explore other realms while still creating images that were representative of my character and the vision I wanted to express." Seanen is interested in abstract and philosophical ideas; his images make statements about the world, society, religion, and metaphysics. "My ideas have became less about me and more about the way I interpret the reality that lies around me."

As for the future, Seanen has it all to come. "I want to look back as an old man and say, 'Damn, I am proud of what I have done.' I am slowly starting to move into cinematography and I would really like to focus on that in the future. Hopefully in 10 years' time I will have made my first feature film, but we shall see...."

Seanen Middleton



**Kit** Nikon D600 with 35mm f/1.8 lens
**Exposure** 1/250 sec at f/1.8, ISO 400
Seanen says: "I was going through a period of having terrible vivid dreams, which is where I drew the inspiration for this piece from. The sensation of being dragged into a really dark place by your own hands, your own thoughts and your own mind are all concepts that are illustrated."



**Kit** Nikon D600 with 35mm f/1.8 lens
**Exposure** 1/4,000 sec at f/1.8, ISO 320
"There wasn't much planning to this image – just a beautiful landscape of purple flowers overlooked by a gigantic oncoming storm. It gave me the sensation of feeling small, like the world and nature is so vast and powerful compared to us animals. That is a brilliant way of gaining perspective."

**Kit** Nikon D600 with 50mm f/1.4 lens
**Exposure** 1/1,600 sec at f/2.2, ISO 320
"I had the idea of being exposed to something greater than yourself... Perhaps that could be symbolised by a godlike figure, but a more accurate description is the concept of truth. Being exposed to the truth can be incredibly daunting, but at the same time there is a grandiose sense of beauty and awe to it."



**Kit** Nikon D600 with 35mm f/1.8
**Exposure** 1/1,000 sec at f/1.8, ISO 400
"We live in a world of masked people, constantly trying to hide their true self in order to 'fit in' with society. I find this an incredibly depressing thing. This piece is based on that – the moment when you can no longer hide your true self, your true feelings, the sadness behind the mask that you wear every day.



**Kit** Nikon D600 with 35mm f/1.8 lens
**Exposure** 1/2,000 sec at f/1.8, ISO 800
"A theme I visit quite regularly is the oneness we share with nature, and how we are not a separate entity but deeply connected within it. That is something I feel we as a species need to be reminded of when we are caught up within our own day-to-day lives. I decided to merge together man and nature in this piece to reflect that idea."



# PHOTO ANSWERS

*Your tricky photography questions answered!*

**ANDREW JAMES**

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It's possible with care to shoot water with a long enough exposure to achieve blur, but a tripod makes it so much easier.

## In a puddle

**Q** I don't own a tripod and have been trying to shoot blurred water hand-held, without much success. What are my options?
***Rick Brent***

**A** **WITHOUT using a tripod of some sort, Rick, you are massively restricting yourself.** Basically, you need to slow the shutter speed down. While you will certainly start to get some blur at speeds of around 1/30 sec and 1/15 sec – if the water is moving at a fast pace – you are also likely to end up with unwanted blur in the static areas that are supposed to be sharp, caused by camera movement.

That said, it's not impossible. My example image (above) is hand-held at 1/15 sec and is acceptably sharp in the non-movement areas. I leaned against a tree and used my elbows to create a 'human tripod', then gently squeezed the trigger. With practice, you might be able to drop down to 1/8 sec; but when you start going of one or two seconds, it is going to be very difficult to take a picture without some camera movement spoiling it. At these slower shutter speeds your only option is to balance the camera on a bean bag or even your camera bag, then to fire the shutter using a cable release or the self-timer. The trouble with this route is that it restricts your angle of view and therefore your framing – so, whether you like it or not, a tripod is really the best thing to use.

Ultimately Rick, you have two options: develop ninja-like hand-holding skills that will allow you to remain absolutely still, or get a tripod. While the first option will help in some circumstances, I really think the second is the way forward.




# Chromatic aberration

What colour fringing occurs – and what to do about it

**What is chromatic aberration?**
It is a very common optical issue that happens when a lens cannot bring all of the colour wavelengths of light together correctly. This means that some areas of your image may display unsightly coloured edges. Typically this colour will be purple, which is why it's also often referred to as purple fringing.

Light is made up of different wavelengths of varying colours, and your lens requires all the wavelengths to reach the sensor at the same point. If it doesn't, chromatic aberration is the result.

**Does it show all over an image?**
No, it is most likely to be seen in areas of high contrast; the branches of a tree against a bright sky, for example. Depending on the severity of the chromatic aberration, it may only be really obvious when you zoom in to 100% or more in Photoshop; at other times it can be really visible without zooming in.

**Does it occur on all lenses?**
Chromatic aberration can occur with any lens, although lens manufacturers work hard to reduce its likelihood. It can occur more often with cheaper lenses. If there are some defects within the lens then, in certain conditions, some chromatic aberration in the image is inevitable – whatever you paid for your lens.

**How can I stop it from occurring?**
If your lens is particularly prone to it, try to avoid too much contrast when framing up. Don't shoot directly into the sun, for example. You can also try changing apertures: stopping down to f/8 or f/11 might reduce it.

Zoom lenses are often the worst culprits when it comes to chromatic aberration; primes are better at handling the tricky type of light where it occurs most often, because they have less glass inside them. You may also notice that it happens most often around the edges of the frame.

**If it shows in an image, is there any way of getting rid of it in post-processing?**
Yes – almost all raw image-editing software, such as Lightroom and Adobe Camera Raw, comes with a one-click option for removing chromatic aberration. In situations where the problem is severe, it may not eradicate it completely – but in most cases, ticking the Remove Chromatic Aberration box will put a smile back on your face. That's another reason why it is best to shoot raw rather than JPEG.



# Film mimic

**Q** How can I mimic the look of old black-and-white film like Kodak TMax 3200 digitally?
***Donny Jacks***

**A** **WELL, that name is a blast from the past, Donny.** I used to love popping T-Max 3200 in the camera. I can recall the first time I used it, in a dark and gloomy boxing gym. The results were grainy and full of contrast, but that added to the atmosphere of the final image. The setting was gritty, and the film reflected this perfectly.

These days the greater emphasis, even for relatively low-light images, has to been to extract every ounce of detail from the shadows and with as little grain as possible; but sometimes I think the resulting images look almost too perfect. Sometimes you want an image to have a rough, imperfect edge to it, for creative purposes.

Your best option to re-create the look of T-Max and similar film types is to get yourself a copy of Silver Efex Pro, part of the Google-owned Nik Collection. I've mentioned this software a few times over the years, but it really is great for this – and even better; it's free. Download it from **www.google.com/nikcollection** and use it as a plug-in within Photoshop or Lightroom. Once you load the image you want to use, just select T-Max 3200 from the dropdown list. It couldn't be easier.

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# Building blocks

**Q** I love buildings, but find them difficult to shoot, especially when they are on a huge scale. Can you give me some tips?
***Gary Brand***

**A** **THE biggest mistake you can make when you start to shoot architecture is thinking you have to get all of the building in your shot.** I'm not saying you shouldn't try to do this, but you'd certainly find it easier if you started to break the building down into its components and consider what it is about each parts that is interesting and visual. There may also be lots of distractions around a building that you don't want or need in the frame, so you can start to try to figure out how to lose these.

A building is really just a series of shapes, colours and surfaces. Consider these elements, and you'll start to work out which are the most interesting parts that you want to concentrate on. Repetitive patterns, simple shapes, symmetry and tone will all play their part within a structure; it's down to your eye to find these features and frame them in an eye-catching way.

Because buildings are generally quite large, they appear daunting – and it is the scale of the subject that can be the problem. That's why looking at them at a series of smaller parts can be helpful. While you can use a wide-angle lens to shoot a building in its entirety, quite often I opt for using a medium telephoto lens to frame the parts I want – like I did with this colourful building on the island of Burano, near Venice. At a focal length of 200mm, I've isolated part of the façade and used the shapes to capture a simple framing.





# New look

**Q** I've shot classic landscapes for a couple of years. How do I avoid getting stuck in my ways?
***Rosie Hall***

**A** **THERE are so many brilliant photographers these days that it is incredibly hard to come up with a unique angle on a familiar subject.** I haven't seen your portfolio, Rosie, but I am sure you have some great images of classic scenes – and I know from experience that we all hit that point when we say, "Now what?"

For starters, there is nothing wrong with a shot of a classic view. Even this will look different depending on the light and conditions, so that will always give your shot a certain unique quality. Above all else, I'd say look to shoot in the most interesting light.

Beyond this, challenge yourself to work on a project. Last year I decided to work on a creating a series of landscapes on a really small scale, using the texture of natural rock I came across on my travels. I've no doubt this has been done before, but because everything I am shooting is only 8 to 10 inches in diameter and less obvious to the naked eye, I'm sure I am photographing some scenes nobody has spotted the potential in before.

I'm not suggesting you follow exactly the same project, but by setting yourself a challenge, you will find new possibilities every time you go out with the camera.

QUICK Q&A

## Indoor lens

**Q** What's a good lens for shooting weddings indoors?
***Pete Horrocks***

**A** **JUDGING from my experience and the wedding pros I know, I'd suggest it should be a 35mm f/1.4 lens that you opt for – or whatever the 35mm equivalent is for the system you use.** If you shoot with a Fujifilm X-T2 or X-Pro2, for example, a 23mm f/1.4 lens is as close as you'll get.

This focal length will give you enough width for most interiors; and because it has a fast maximum aperture of f/1.4, you can suck in all the available light. You'll also be able to separate your subjects from potentially tricky backgrounds at the wider apertures.




For indoor scenes, aim for a 35mm lens – or the equivalent length after taking your camera's crop factor into account.

The one drawback is that you'd want a longer focal length if you are restricted to shooting from the back, but in most cases an official wedding snapper can sneak in quite close.

HOW TO



# Keep snapshots of your progress in Camera Raw

By capturing regular 'moments' in your image processing, you can go back to a previous stage easily

**1 Start a Snapshot**
Open your raw image in Camera Raw, and work on it until you want to save your work as a stage you might want to return to later. Here I've done some basic work and want to ensure that I can get back to this stage before I do something more radical. Click on Snapshots (the little icon showing three squares.)



**2 Make a Snapshot**
This opens the Snapshots workspace. Click on the little symbol that looks like a square with a corner folder, in the bottom-right corner. A dialog box opens, and you need to type in a name for the Snapshot. In this case I called it 'process1'. Click OK, and that saves all the stages of processing you've just done.



**3 Revert to a Snapshot**
Continue to work on the file. Take it in any direction you want, knowing you can always return to that Snapshot. You can create as many Snapshots as you want. Here, I've added a graduated filter to the sky, deepened the black and added a vignette, then saved this work as a second snapshot called process2.



QUICK Q&A

## Which torch?

**Q** I'd like to shoot some night images. What sort of torch is best for seeing the camera in the dark?

*Jim Spendelow*

**NIGHT SKY PHOTO TIPS SPECIAL**
See page 44



**A** **HAVING used both hand-held torches and head torches, I find both useful.** If I am lighting a scene with torchlight, a small but powerful hand-held torch works best; but if it is simply a matter of seeing the back of the camera, wearing a head torch means I can stay hands-free. My head torch has a red light, which means I can illuminate my camera without half-blinding myself.

## Colour change

**Q** I shoot raw and use the Landscape Picture Setting, but when I import to Lightroom it doesn't look the same. Why?

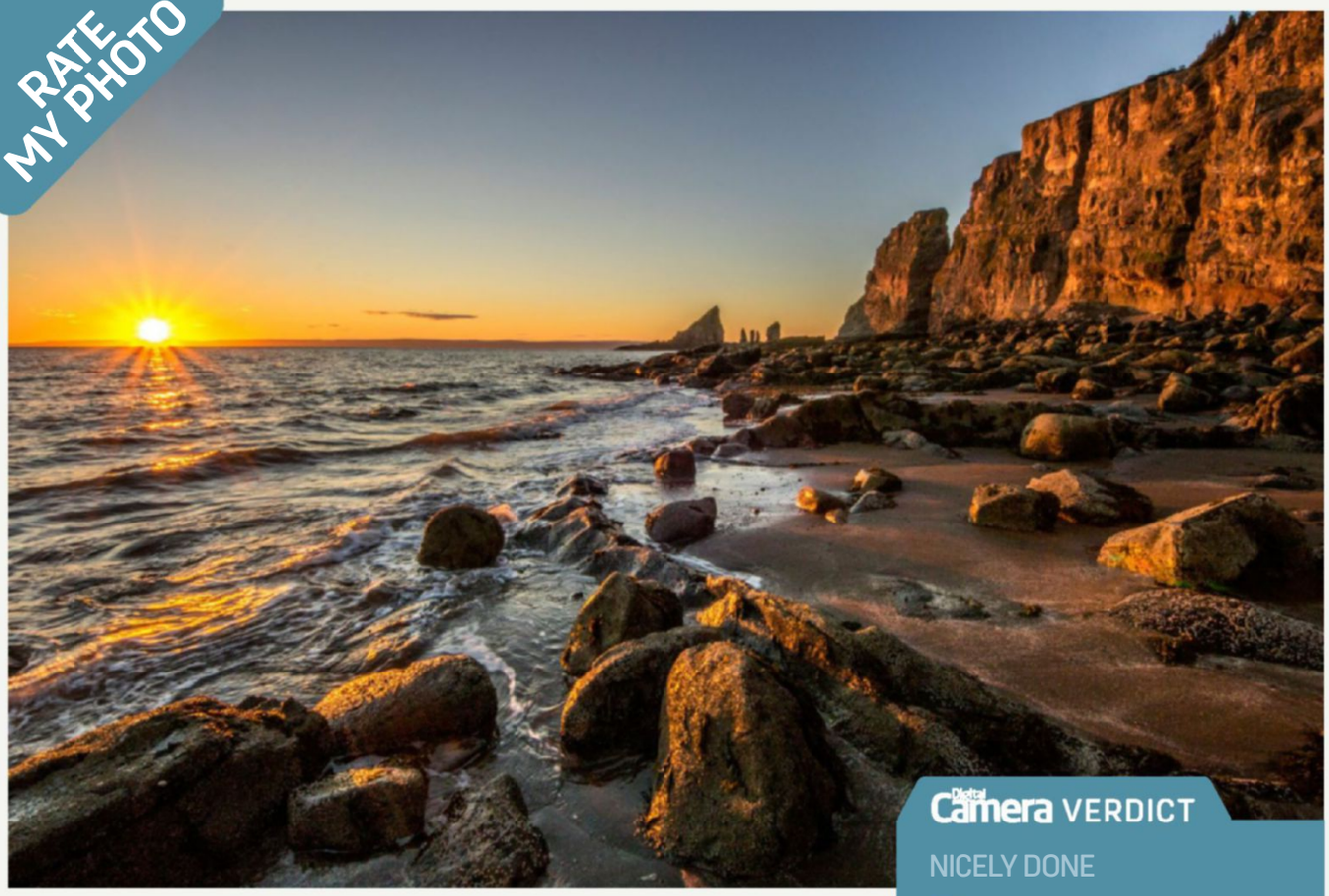
*Colin Banner*

**A** **YOU chose Landscape on your camera, but Lightroom imports the raws with the Adobe Standard colour profile.** At the bottom of the right-hand panes in the Develop module is Camera Calibration. Click on Adobe Standard and the drop-down menu will give you various camera profile options, including Landscape. Select this to be the starting point for your editing.



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# Paul Steele

As gorgeous as this shot is, there's still a little room for improvement...



**PAUL SAYS:** This was taken at Cape Split, Nova Scotia. While most people stick to the spectacular views from the top, I like heading down to the beach to get a sea-level view of the impressive 100m cliffs. Because of the extreme tides in this area, the location for the shot is only accessible a couple of nights each month, when sunset and low tide occur around the same time.

I've always enjoyed sunset shots on wet rocky beaches just before the sun sinks below the horizon. The wet rocks intensify the colours of the sunlight and make for a more dramatic image. I used a Canon EOS T6s (760D in Europe) and a Sigma 8-16mm wide-angle lens. My exposure was 1/40 sec at f/16 and ISO 160.



**ANDREW SAYS:** There is a lot of mood and atmosphere in your shot, Paul. It's obvious that you have really considered your composition carefully, as it is very well-balanced. I agree with you about wet rocks and late light; when they glow almost golden, they seem to set the whole landscape on fire.

You've done really well to control the highlights as you are shooting directly into the setting sun, but I can see some noise in the shadows, where you've had to pull out detail to compensate. As you bracketed three shots at the time, I'd consider an HDR blend to see if you can create the same drama without the noise creeping in.

A slower shutter speed would have created a greater contrast between sea and land by smoothing the waves slightly. This would also add a little bit of dynamic movement. But I can't give you a bigger compliment than to say that I wish I'd been with you for that scene and light.

## Digital Camera VERDICT

### NICELY DONE

- Amazing light – you were there at just the right time
- A beautifully balanced composition leads the eye through the scene

### ROOM FOR IMPROVEMENT

- There is noise evident in the shadows
- Some wave movement would add an extra element of interest

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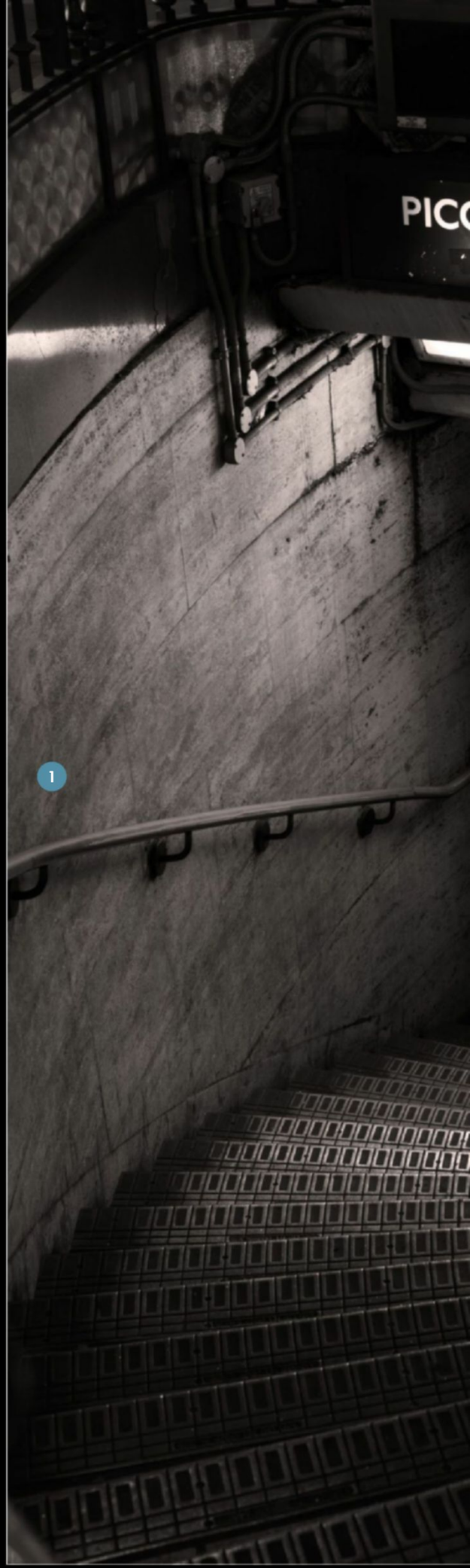
# ASSIGNMENT

The winners of our '***The city at night***' contest – and everything you need to know for this month's challenge

**EVERY ISSUE,** we challenge you to take the most creative and arresting shot around a theme, and share it at the online community at Photocrowd (www.photocrowd.com). Here, you'll be able to browse the entries and vote on your favourites. The best entries receive a critique from our judging panel – and one winner receives a special prize!

Your mission in issue 186 was to capture the city at night. We wanted you to explore what the urban environment had to offer after the sun had set. There was a variety of entries that ranged from shooting twinkling lights from afar to those who took a more abstract view of the city. The winning image had a mysterious tone, taken with a slow shutter speed, that got us thinking...

**This month's photo assignment is 'From above or below!' Find all the details over the page...**




1 **TATZLUM.PHOTO** This mysterious image is a worthy first-place winner, and the brief was interpreted in a really original way. A one-second tripod-based exposure blurs the person in the doorway, and we're left wondering who the ghostly figure is and where they're going. The black-and-white conversion strips back the image for a haunting final result, and avoids garish colours that might have come from the underground sign. The timing and tone is spot-on – well done!
**Kit** Nikon D810 with 50mm f/1.4 lens **Exposure** 1 sec at f/7.1, ISO 100






**2 DOUG STRATTON** This second-place winner proves it's not always about what you photograph, but what you leave out! Cities after dark are bursting with light, and this colourful shot really catches the eye. Doug has been clever with composition: by focusing on the reflection rather than the person, he plays with our sense of balance and adds intrigue. A high ISO boosts the shutter speed without flash or a tripod, although it doesn't matter that the bold reflection is less than pin-sharp. **Kit** Panasonic DMC-TZ40 **Exposure** 1/60 sec at f/5.3, ISO 3,200



**3 JAMES FARLEY** Well done to James, who has captured the familiar sight of Westminster Palace in a less familiar way. This well-known London landmark is a popular subject for night photography, but James' painterly take on the scene really made it stand out. By underexposing and making use of the heavy clouds hanging over the scene, the overall feel is moody and dramatic. He's also used a long exposure to blur the movement of the river, adding to the subtle aesthetic.



CROWD VOTE

**JOHN POW**
Chosen by the voting community at Photocrowd. **Kit** Nikon D3100 with 18-55mm lens **Exposure** 10 shots of 2.5 sec at f/8, ISO 100

NEW ASSIGNMENT

# ABOVE OR BELOW

Our next challenge forces you to come up with a creative composition by shooting from above or below your subject





**This month we've set you a creative challenge that aims to push your composition skills to the next level!** Interpret our 'From above or below' theme however you see best. It may be that you want to head for the heights and capture an aerial perspective. There are many ways to do this, including drone photography! Of course 'from above' doesn't necessarily mean getting up high – so if the thought of this makes you dizzy, you could simply shoot an ordinary object from above to create an interesting result.

If this doesn't capture your imagination, you'll probably want to think about your subject from below. How about heading underground, or looking at architecture from a low perspective? There are loads of possibilities!

**ENTER TODAY!**
**www.photocrowd.com/a/current**
Closing date: 22nd March 2017

**How to enter**

Visit **www.photocrowd.com/a/current** and look for the From the above or below contest. (It's free to join.) Click Submit An Image to upload your entry. The closing date is 22nd March 2017. The creator of the best photo in the judges' opinion will receive a brand-new Lowepro Photo Hatchback BP 250 AW II. The Crowd Vote winner also receives a special prize.

Photocrowd

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INTERVIEW

# ALBERT WATSON

*This highly regarded and influential photographer talks to David Clark about his prolific career in fine art, fashion, editorial and advertising*

**You studied graphic design at art college in Dundee, then film at the Royal College of Art. What made you decide to work in photography rather than another art form?**
At that time, Dundee offered a four-year course with two years of general art, then you specialised for the final two years. I chose graphic design, and I really enjoyed the discipline of the process. Then the college added photography to the curriculum, and around the same time my wife Elizabeth bought me a simple camera for my 21st birthday.

When I got that camera in my hand, I felt very comfortable straight away. There was something magical to me about it.

**Your artistic training lasted several years. How important has it been in your professional life?**
My work is really divided into three different categories. The first one is graphics and the second one is film, as far as directing people and lighting them is concerned. The third category is a combination of both film and graphics.

I greatly appreciate the educational system I went through, which at that time was highly disciplined and very demanding. We used to complain about it all the time and say that it was too structured, but I rely on the skills I learned at college to this day.

**What made you decide to move to America?**
In 1966 I won a travelling fellowship from IBM, and I went to various cities including New York, Washington and Chicago. I was over there for a month, and it made a big impression on me. When I finished art college in 1969, I taught for a year, then I persuaded Elizabeth to take a teaching job in Los Angeles. I was initially in America as her dependent.

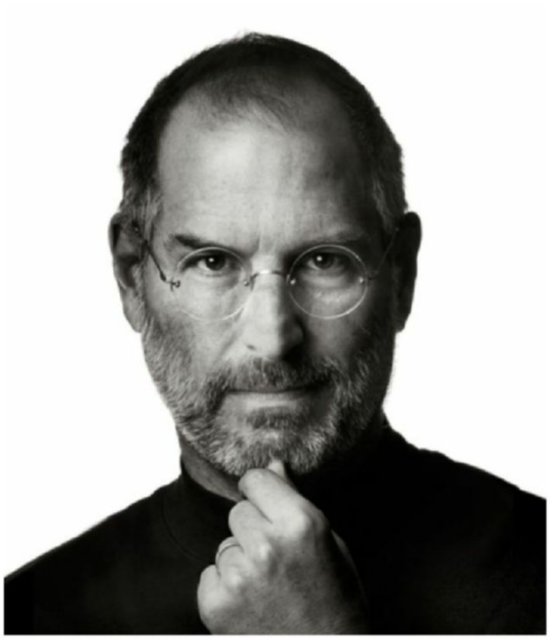
Opposite page
One of Albert Watson's first professional portrait assignments was photographing film director Alfred Hitchcock for *Harper's Bazaar* in 1973. The pose was Watson's idea.



**Right** — The late Apple CEO Steve Jobs, photographed by Watson in 2006. Jobs said later: "That's the best picture ever taken of me."

**Far right** — Watson photographed a chimp holding a real Smith & Wesson revolver in his iconic 1992 image 'Monkey with Gun'.

**Opposite page** — This powerful shot was created in-camera. It's a double exposure combining images of Mick Jagger and a leopard, taken in 1992.









## ALBERT WATSON

*Fine art, editorial and commercial photographer*

**ALBERT** Watson was born in Edinburgh in 1942. He studied film and television at the Royal College of Art and emigrated to the USA in 1970. Since then, he has built a successful career shooting fashion, portraits and advertising campaigns.

**HE** has shot over 100 Vogue covers and campaigns for brands such as Prada, Revlon and Chanel. His books include *Cyclops* (1994), *Maroc* (1998) and *UFO: Unified Fashion Objectives* (2010).

**ALBERT'S** many awards include a Centenary Medal from the Royal Photographic Society in 2010 and an OBE for services to photography in 2015.

**How did you start your career in the States?**
By that time I had a simple portfolio of pieces and one connection in Los Angeles. My next-door neighbour in London had a friend who worked for an advertising agency in LA, and he introduced me to him.

From there I met an art director at the same agency, who in turn introduced me to the head of Max Factor cosmetics advertising, Jim Roth.

**What was your first job?**
Jim had some clothing left over from a shoot in the fashion closet and offered to book a model for me for an hour, so I could shoot some pictures. I talked the model into working for the whole day by offering her some prints. We shot on various different locations, and two days later I took Jim 60 rolls of film. He said they would buy three of the shots from me, and he gave me a purchase order for them.

**Was it well-paid?**
When I opened the envelope and looked at the purchase order, I thought, "Wow, they're paying me $150 for every shot." But when I got home my wife said it looked like they were actually paying $1,500 per shot. At that point she was earning $1,800 a year.

We thought they had made a mistake with amount, and I questioned it with Jim Roth. He said, "I'm afraid that's all we can afford right now, next time we'll pay you more."

It was a complete shock. I did all of Max Factor's major campaigns from then on; and that enabled me to set up a studio, employ assistants and so on.

**How did you start shooting portraits?**
In 1973, I got a call from *Harper's Bazaar*, asking me to photograph Alfred Hitchcock. I was just out of film school, so the idea of being in LA photographing Hitchcock was an amazing opportunity.

They said they wanted to show him as a gourmet cook in a feature for the Christmas issue. They wanted him holding a plate with a cooked goose on it. I thought about it, and said it might be better if he was holding the uncooked goose by the neck. I did the shot and it was a huge success. Hitchcock loved the idea. He thought it was funny.

**Do you go into a shoot knowing the image you want to get, or does it develop as you go along?**
It's a combination of the two, but preparation is important. When I talk to other photographers, even those in their 30s or 40s, and ask if they do preparation, they say, "Yes, of course." But when you grill them, you find out that 90 per cent of the preparation is about equipment.

They actually do very little preparation with regard to the creative aspect of what they're shooting or the concept behind it. They rely on things happening. I have very good assistants who take care of the technical side, so it leaves me free to think about the idea behind the picture and how I'm going to execute it.

**Are you able to give an example of your approach?**
When I photographed Steve Jobs in 2006, I had arranged to have an hour with him. Five minutes before he was going to arrive, the PR person said to me,





**Above** Skye's famous landmark, the Quiraing. Watson returned to his native Scotland to shoot its spectacular landscapes in 2013.

**Opposite** 'The God Sign', Route 15, Las Vegas, 2001. This image was published in *Strip Search*.

"I just want to let you know that Steve hates photographers." I didn't care about that really, but I needed to get the picture, so I wondered what I could do to make him like me.

I decided I was going to take a risk. When he arrived I said, "I have some very good news for you. I only need you for half an hour, not an hour." He said, "I'm so busy today, it's great to have that half-hour back."

He then asked me what I wanted him to do, and I said, "Just imagine you're sitting in a meeting and all the people on the other side of the table don't like your ideas, but you know you're right." He replied, "That's easy, I do that every day."

That's where that quietly confident look on his face came from. I gave him an idea of how to look, but also built a bond with him.

**QUICKFIRE Q&A**

**Is equipment important to you?**
Cameras are super-important: take them away and you haven't got a job. You have to know your equipment and what it can give you. But I want to make that device in my hand invisible to my eye, so that the most important thing is the image in front of me and my brain. I want to forget cameras.

**What do you do if an ad agency brings you a layout you don't like?**
I used to argue against it, but now I don't. The quickest way to deal with it creatively is to look at what they are trying to do, solve it very fast, then hopefully make it a lot better.




**ALBERT'S KIT BAG**
Albert says: "In the past I used everything from Nikon 35mm to 4x5 and 8x10 film cameras. When digital was good enough, I moved on to a Hasselblad with a digital back. Now I use a Phase One XF medium-format camera system, which I like very much. I also have an iPhone, which I like to use for reference pictures."




GOD





**You've shot portraits, fashion, advertising and still-life – is there anything this diverse work has in common?**
I think sometimes the brain goes a particular way and it has a mind of its own. Sometimes you just gravitate towards something you think is correct, but you're not necessarily analysing it.

When I take photographs, it's what I do and who I am. It looks like mine because it is mine, and because I've got a history of graphics and film both together. Graphics has made a stamp on my work.

**Does the world of digital post-production offer you any attractive new opportunities?**
On a scale of 1 to 10, I would give working on the computer 10 out of 10 in that area. I like computer manipulation very much.

If a photographer uses a computer in the correct way, it can be much more akin to the way an artist works. You can remake an image in your own vision and it's up to you to decide what you do with an image. People can either like it or not.

The Photography Show
18-21 MARCH
Birmingham NEC

Albert Watson will be speaking on the Super Stage at The Photography Show at 1pm on Saturday 18 March, and at 11am on Sunday 19 March. For tickets, see www.photographyshow.com

**In your 45-year career to date, does anything stand out as a particular highlight?**
One of the most memorable things was photographing Hitchcock. It looks like a simple umbrella-flash picture of him, but there's more of me in that picture than you might think. Consequently I'd view that picture as a highlight. And going to Buckingham Palace to receive an OBE was nice.

**You're known in the industry as something of a workaholic. What drives you?**
If you love photography and you're lucky enough to find something that you like to do, then life is good. You're very lucky, because the vast majority of people, for one reason or another, can't find the right thing to do in life. Photography has never felt like work to me.

**www.albertwatson.net**
**Albert Watson's retrospective book *Kaos* will be published by Taschen (www.taschen.com) in April 2017**

**Above left** __ Watson's nude shot of supermodel Kate Moss was taken on her 18th birthday in 1993. It's one of his most popular images.

**Above** __ Another supermodel, Christy Turlington, captured by Watson on a shoot in Luxor, Egypt, in 1987.

**NEXT MONTH**
Journey into nature with Frans Lanting

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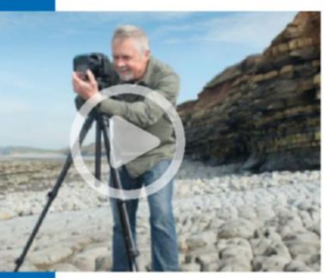
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THE PERIMETER



# QUINTIN LAKE

*In a new series, find out how this landscape photographer is handling an epic journey around Britain's coastline*



Quintin Lake

**HAVING camped nearby to catch the first light, my approach to Dylan Thomas' boathouse in Laugharne is accompanied not by the sound of the curlew but the zip of helicopter cannon fire.** It's one of the dichotomies of the coast that the sound of conflict can reside in such a landscape of tranquillity. The explosions make flocks of geese screech and rise.

The Taf estuary is a stunning subject that encourages an abstract response. At low tide, ribbons of mercurial drying sand intertwine with rivulets of water, like the lower reaches of the Severn.

At Monkstone Point, I find the perfect shelter out of the cold wind and eat my bread and ham – the simple food tastes delicious in a rare moment of warm sun.

## Black sea

"Have you been camping?" I'm asked in a cafe in Tenby. I'm not sure there's a positive way to interpret the question! Tenby is so picturesque that I find it difficult to find a considered image, especially in the hard light, beautiful though it is.



Quintin looks for camping spots near destinations where he can catch the first light the next day.

As the mists blow, Caldey Island vanishes and emerges dreamily. I'm relieved to find Freshwater East's public toilet has a tap so I can fill up with water for the next day. A holiday village unlocks their shop for me, so I get some noodles, oat cakes and frozen cheese.

I turn off the torch after putting the tent up near the end of vertiginous Stackpole Head. In this starless night, the grass is charcoal-black, inverting land and sea. It feels like I'm standing in the middle of a black sea and the sea itself is pale grey, like the land. The next morning, I realise I've slept right on top of a massive rock arch without realising it.

## Flashing bells

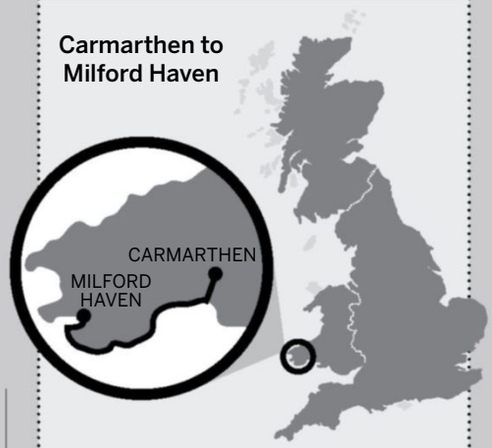
I walk three hours daily in the dark with a head torch to cover the distance at this time of year. A car stops as I cross a firing range: "You OK, sir? You want a lift anywhere? You be careful, sir."

Flashing bells and Santas in bungalow windows dance through the pitch-dark on the approach to Pembroke. I'm knackered! There's been only 15 minutes for lunch; otherwise I've been moving all day. I find it hard to think of photography as I just want to sleep. I've nearly reached 3,000km. Time to head home for warmth, rest and family.

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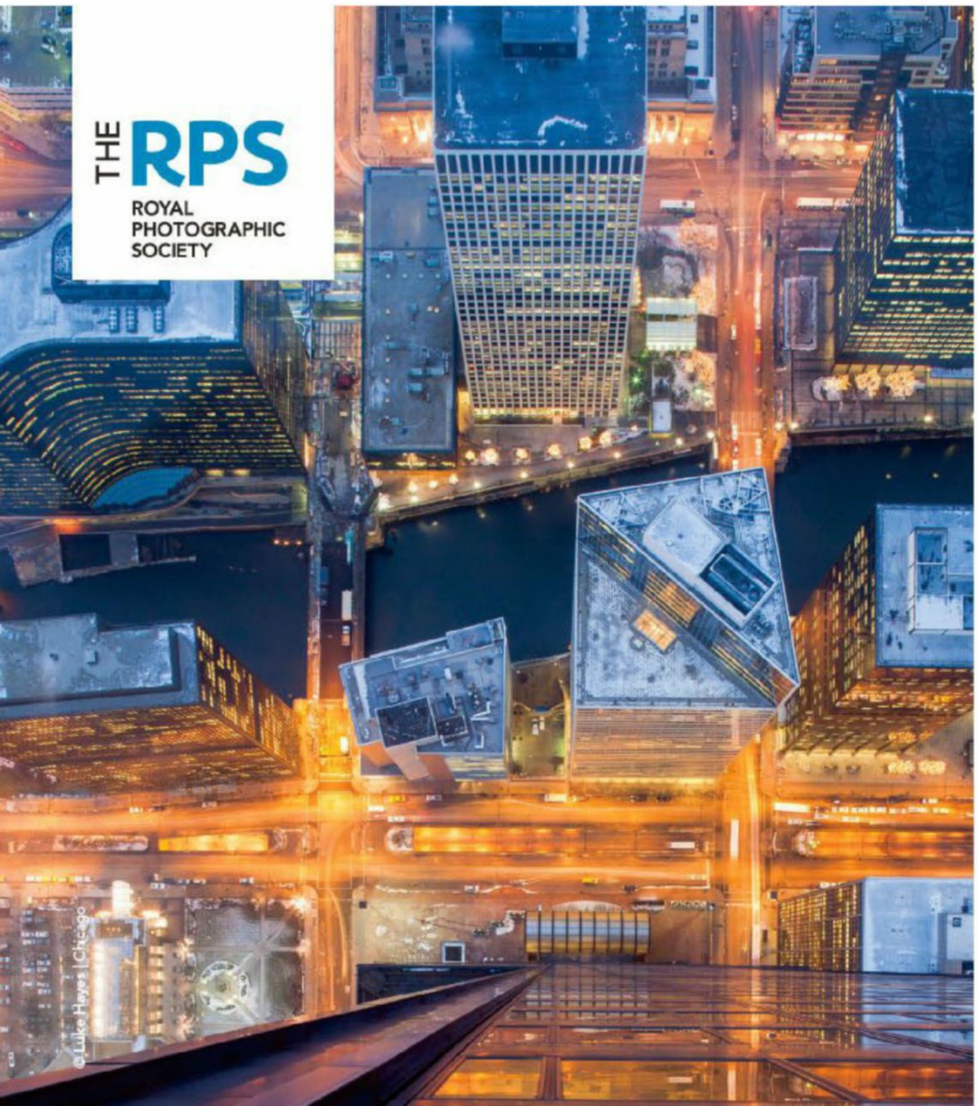
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BLUFFER'S NOTES



David Alan Harvey

# DAVID ALAN HARVEY

*This photographer's early camera experiences led to some of the richest photojournalism of recent times*

**DAVID Alan Harvey is an acclaimed photojournalist, best known for his long-term projects documenting Latin American culture.** A long-time contributor to *National Geographic*, he has been a full member of Magnum since 1997.

**What's his background?**
Harvey was born in San Francisco in 1944 and brought up in Virginia. He started taking pictures aged 11, and later bought a second-hand Leica with his paper-round earnings. He went on to study at the Graduate School of Journalism at the University of Missouri.

He graduated in 1969 and began working on the Kansas publication *Topeka Capital-Journal* before being awarded a grant that allowed him to shoot his own personal projects.

**What was his first photo-essay?**
His first project focused on a black family living in a slum in Norfolk, Virginia. Harvey lived with the Liggins family for a month to capture details of their everyday lives. He self-published the project as a book, *Tell It Like It Is*, in 1967.

**When did he start working for *National Geographic*?**
His first assignment, on Tangier Island, Virginia, was published in 1973. Since then he's shot over 40 stories for the magazine, including Mayan civilisation, stock car racing and the Berlin Wall.

**How did his work develop?**
He became fascinated by exploring rituals, traditions and culture in the Spanish and Portuguese diaspora in the Americas. His two major books on Hispanic life are *Cuba* (1999) and *Divided Soul* (2003). He also became a leading and influential figure in the use of colour in photography.

**What's new about his recent books?**
They represent a move away from straight documentary work. His 2012 book is described as "a photo novella" in which readers piece together their own story based on his images. Harvey says the book inhabits a "grey area" between documentary and fiction, while *Beach Games* (2015) is "100% fiction" and mixes colour and black-and-white work.

**What else does he do?**
Harvey is the publisher and editor of the online and print magazine *Burn*. He launched it in 2008 with the aim of "providing a platform for emerging photographers."

**NEXT MONTH**
Behind the documentary work of Anna Fox

The Photography Show

**David Alan Harvey will be talking about his work on the Super Stage at the Photography Show, at 1pm on Tuesday 21st March.**

# KIT ZONE

NEW GEAR / EXPERT TESTS / BUYING ADVICE




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## SONY ALPHA 99 II

Shooting at a massive 42.4 megapixels, this full-framer has the experts excited




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## CANON EOS M5

Canon launches a mirrorless camera with a built-in viewfinder... about time!



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Eight photo editing packages compete for the alternative crown in our group test



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## UNIVERSAL CHARGERS

Six universal chargers that promise to refuel almost any camera battery



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Don't worry about the weather this spring! Practical photography clothing tested

## Also reviewed

**109 IPHONE 7**

Apple's latest smartphone ups the mobile photography ante with two lenses and a host of shooting modes. Has it lived up to the hype?

**111 ROTOLIGHT ANOVA PRO**

Our photography gear experts test whether this LED light can deliver professional looking results. Find out the results on page 111

## Reviews you can trust

*Digital Camera* is brought to you by the UK's most experienced team of photography journalists, which means you can trust everything you read, and compare kit with confidence.

We believe the best way to test a product is to use it as it was intended. Our real-world testing involves taking equipment on a proper shoot – whether outdoors or in the studio – and using it exactly as you would, to let you know if it's fit for purpose.

Scientific data won't tell you everything, but it's a great way to make comparisons and sense-check our real-world conclusions. We have a series of controlled tests for cameras and lenses that deliver objective benchmarks. You can download the high-resolution test images and resolution charts we shoot from **www.techradar.com/cameras**. This means you can check the quality yourself – and even run your own tests.

## Scores explained

Each of our tests scores out of five in one or more sub-categories; then we award an overall mark out of five. *Digital Camera* is 100% independent – and never swayed by advertisers. The tests you read are our genuine, unbiased opinions. Our company has a strict code of conduct on testing – the most rigorous of any photo magazine.

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*The brand-new 79-point/ 399-point hybrid phase detection system is only possible with the SLT design*



**JUST when we all thought the Alpha 7 series was the future for professional full-frame Sony stills and video photography, the company drops a bombshell with the Alpha 99 II.** This is a throwback to Sony's early experiments in SLR alternatives. It's like a mirrorless camera... but with a mirror.

In fact, it's a fixed, translucent mirror, which passes light through to the sensor at the back of the camera, but also feeds a dedicated SLR-style phase-detection autofocus sensor in the base of the pentaprism housing.

### Features

The A99 II has two key selling points. First, it combines a high resolution with high continuous shooting speeds. It has the second-highest resolution of any full-frame camera at 42.4MP, but it can also shoot at this resolution at up to 12 frames per second.

It's within a whisker of Nikon D5 and Canon EOS-1D X II speeds,

1 **The A99 II takes full-frame A-mount lenses, not the A7-series E-mounts.**

2 **It looks just like a regular tilting screen, but it has a three-axis mechanism that allows a much wider range of movement.**

3 **The EVF is so good you could mistake it for an optical 'finder', but bright skies may 'clip'.**

4 **You can use existing A-mount lenses with the A99 II, but not all are compatible with its Hybrid Phase Detection AF system.**

but it doesn't have their buffer capacity. It can still capture 54 raw+JPEG images, though. AE/AF tracking in the 12fps H+ mode does require lenses compatible with the new hybrid autofocus system that is the A99 II's second key selling point.

It's a brand-new 79-point/399-point hybrid phase-detection system, and one that's only possible with the Alpha SLT design. The 79 points are provided by a dedicated phase-detection sensor above the mirror, and are arranged in a typical SLR distribution around the centre of the frame. The further 399 points are on-sensor phase-detection points arranged in a rectangular area over a much larger area of the screen.

These two systems work together, depending on the autofocus mode that's been selected. 15 of the 79 AF points on the dedicated AF sensor are cross-type, but the remaining AF points overlay corresponding AF points on the main sensor to provide a kind of hybrid cross-type AF. Beyond this 79-point area the on-sensor AF points can pick up subjects moving quickly and




1

**Beautiful bokeh**
The Alpha 99 II's full-frame sensor, combined with Sony's fast-aperture Zeiss lenses, can create a wonderful sense of depth.

2

**Fine-detail resolution**
The A99 II's non-anti-alised 44.2MP sensor can capture extraordinary levels of detail – given the right lenses and perfect shooting technique.

3

**High-ISO performance**
Well-lit indoor shots will be fine, but you'll see a loss in quality by ISO 3,200. Use a tripod to exploit this camera's awesome image quality.

erratically around the frame. The 42.4MP sensor has no anti-aliasing filter, and it's matched up with a Bionz X processor and front-end LSI that delivers widely expanded sensitivity (up to ISO 25,600, or 102,400 in expanded mode), extra-low noise, and even diffraction compensation at smaller lens apertures.

The A99 II also incorporates in-body five-axis image stabilisation and impressive video capabilities, which include full-frame 4K movies or high-resolution oversampled 4K without pixel-binning in the Super 35mm format.

## Build and handling

Despite the many technical advances, the A99 II is actually 8% smaller than its predecessor. This has been made possible by rejigging the internal layout and reducing the size of the image stabilisation system.

The body has a magnesium alloy chassis and top and bottom plates; it's sealed against dust and moisture; and the shutter mechanism has a quoted life expectancy of 300,000 shots. The battery life expectancy is less impressive, and a reminder that mirrorless cameras (even those with a mirror!) gobble up power much faster than an SLR. The A99 II's battery is good for just 390 shots in Live View and 490 using the EVF. You'll need plenty of spares if you go out on an extended shoot, and you'll need to make sure they're charged up.

The A99 II is commendably compact – although if you fit a pro-spec zoom lens like the Zeiss 24-70mm f/2.8, you might find yourself wishing the body had a bit more vertical height, for a better grip in the hand to balance out big, professional lenses like this.

The thumbstick located on the back is something of an acquired taste too. It's used extensively for menu navigation and focus point positioning, but it has a >

## Meet the rivals...

The cameras taking on the Sony Alpha 99 II...

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**Canon EOS-1D X II**
£4,800/$6,000
Blistering 14fps continuous shooting, fast autofocus and superb image quality make the 1D X II a top choice for pro sports and action photographers.
Reviewed Issue 180
★★★★★



**Nikon D5**
£5,100/$6,500
With clarity and sharpness that belies its modest resolution, the D5 boasts a great AF system, 12fps shooting and a huge sensitivity range.
Reviewed Issue 179
★★★★★



**Sony Alpha 7R II**
£2,900/$2,900
It doesn't have the A99 II's AF system or 12fps frame rate, but the A7R II has superb 42MP full-frame quality in a body not much larger than an old 35mm film SLR.
Reviewed Issue 169
★★★★★



The A99 II's exposures, colour rendition and dynamic range are difficult to fault.

short throw and a heavy, rather imprecise feel.

The electronic viewfinder is terrific, though. It's so crisp and responsive that, given the fact the A99 II already handles like an SLR, you could forget that it's not an optical viewfinder.

The rear screen is especially clever. It has a tilt mechanism with an additional cantilever section, which lets you angle the screen higher and further forward for waist-level shooting. It also hinges at the base for overhead shots, and there's a central pivot here which lets you turn the screen sideways too. This means vertical shots are as straightforward as horizontal ones.

## Performance

Our real-world tests confirm the results we got in the lab: the A99 II's 42.4MP sensor can deliver extremely sharp results. However, you have to work that little bit harder to get the best from it, because its resolution shows up the slightest focusing error or camera shake. With a camera like this, it's very tempting to zoom in on every image to revel in the detail – or worse, to find fault either with your equipment or your technique.

This means the five-axis stabilisation is especially welcome. Even so, if you are shooting hand-held with this camera, you might want to keep the shutter speeds just a stop or so higher than you would with a lower-resolution model.

The colour rendition, dynamic range and exposure accuracy are pretty hard to fault. Any exposure variations were entirely predictable and due to the scene lighting, not any failings on the part of the A99 II's metering system.



The auto white balance system has preserved the warmth in the low winter sunlight here – we didn't often need to resort to the white balance presets.

Photographers also need good high-ISO performance, which is a stumbling block for high-res sensors. The A99 II does pretty well in this respect, delivering images with little real degradation up to ISO 3,200. Beyond this, the noise stays well-controlled, but detail loss and smearing starts to creep in. There's a clear difference between ISO 3,200 and 6,400, and at ISO 12,800 finer detail is starting to get distinctly mushy. The image quality is never intolerable, even at the maximum expanded ISO 102,400 setting, but you'd only use that setting in an emergency, and with the awareness that you probably have the wrong camera for the job.

The autofocus system is highly effective, if complicated by the fact you need a compatible lens to get the full benefit of the Hybrid Phase Detection AF system. (There's a list available on the Sony website.)

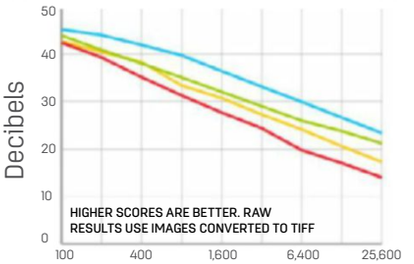
**Rod Lawton**

## COLOUR ERROR



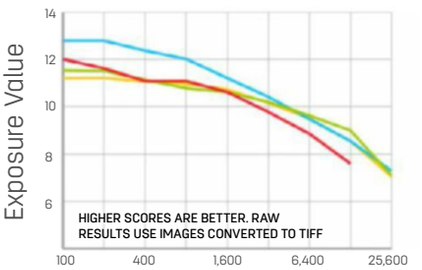

The A99 II came out on top in this test, producing the most neutral colours of all four cameras we compared. To be fair, all but the Nikon D5 scored very well.

## RAW SIGNAL-TO-NOISE RATIO




The A99 II came third for noise, though the results were still good. The higher megapixel count and small light loss through the translucent mirror are the culprits.

## RAW DYNAMIC RANGE




The dynamic range figures are much closer and unlikely to be apparent in real-world results. The larger photosites of the EOS-1D X II appear to yield a small advantage.

## WE SAY...

The A99 II's specs are stunning. Never before have photographers been able to shoot at these frame rates and this resolution. The 79/399-point hybrid AF system is impressive too. The EOS-1D X II and Nikon D5 still have the edge for sports photographers, though, and if you don't need the 12fps frame rate AF, the mirrorless A7R II is more tempting.

## VERDICT

| | |
|---|---|
| FEATURES | ★★★★★ |
| BUILD & HANDLING | ★★★★½ |
| PERFORMANCE | ★★★★½ |
| VALUE | ★★★★☆ |
| OVERALL | ★★★★½ |

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### Nikon D610

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### Nikon D750

24.3 MEGA PIXELS · 6.5 FPS



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| £1,599.00 | £2,279.00 |

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### Canon EOS 7D Mark II

20.2 MEGA PIXELS · 10 FPS



| Body only | + 100-400 L IS II |
|---|---|
| £1,249.00 | See web |

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### Canon EOS 6D

20.2 MEGA PIXELS · FULL FRAME



| Body only | + 24-105 IS STM |
|---|---|
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### Canon EOS 5D Mark III

20.2 MEGA PIXELS · FULL FRAME



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|---|---|
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| 28mm f/2.8 IS USM | £389.00 | 400mm f/5.6L USM | £1,099.00 | 24-70mm f/4.0L IS USM | £769.00 |
| 35mm f/1.4L II USM | £1,799.00 | 500mm f/4.0L IS MK II | £8,299.00 | 24-105mm f/4L IS II USM | £1,129.00 |
| 35mm f/2.0 IS USM | £469.00 | 600mm f/4.0L IS MK II | £9,615.00 | 24-105mm f/3.5-5.6 IS STM | £729.00 |
| 40mm f/2.8 STM | £169.00 | 800mm f/5.6L IS USM | £11,899.00 | 28-300mm f/3.5-5.6L IS | £2,249.00 |
| 50mm f/1.2 L USM | £1,184.00 | TSE 17mm f/4.0L | £1,999.00 | 55-250mm f/4-5.6 IS STM | £269.00 |
| 50mm f/1.4 USM | £349.00 | TSE 24mm f/3.5L II | £1,520.00 | 70-200mm f/2.8L IS II USM | £1,849.00 |
| 50mm f/1.8 STM | £106.00 | TSE 45mm f/2.8 | £1,199.00 | 70-200mm f/2.8L USM | £1,189.00 |
| 60mm f/2.8 Macro | £379.00 | TSE 90mm f/2.8 | £1,239.00 | 70-200mm f/4.0L IS USM | £1,149.00 |
| MP-E 65mm f/2.8 | £849.00 | 8-15mm f/4L Fisheye USM | £1,199.00 | 70-200mm f/4.0L USM | £499.00 |
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| AF-S 20mm f/1.8G ED | £669.00 | AF-S 85mm f/1.8G | £429.00 | AF-S 16-85mm f/3.5-5.6G | £579.00 |
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| AF-S Nikkor 24mm f/1.4G | £1,799.00 | AF-D 180mm f/2.8 IF ED | £749.00 | AF-S 18-35mm f/3.5-4.5G | £599.00 |
| AF-D 28mm f/2.8 | £259.00 | AF-D 200mm f/4D IF ED | £1,249.00 | AF-S 18-105mm VR | £219.00 |
| 35mm f/2 AF Nikkor D | £269.00 | AF-S 200mm f/2G ED VR II | £4,769.00 | AF-S 18-140mm ED VR DX | £429.00 |
| AF-S 35mm f/1.8G ED | £439.00 | AF-S 300mm f/2.8G ED VR II | £4,849.00 | AF-S 18-200mm ED VR II | £534.00 |
| AF-S 35mm f1.8G DX | £169.00 | AF-S 300mm f/4 D IF-ED | £1,149.00 | AF-S 18-300mm f/3.5-6.3 VR | £629.00 |
| AF-S 40mm f/2.8G ED | £239.00 | AF-S 300mm f/4E PF VR | £1,549.00 | AF-S 24-85mm VR | £429.00 |
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| AF-S 50mm f/1.4G | £389.00 | AF-S 500mm f/4E FL VR | £8,499.00 | AF-S 55-200mm f/4-5.6 VR II | £259.00 |
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| 24-70mm f/2.8 II Carl Zeiss T* | £2,000.00 |
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24.3 MEGA PIXELS



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# Canon EOS M5

## £1,150/$1,100

*Canon launches an EOS M mirrorless camera with a built-in viewfinder – and it's about time*




### SPECIFICATIONS

**Sensor** 24.2MP APS-C CMOS (22.3 x 14.9mm)
**Focal length conversion on lens** 1.6x
**Memory** 1x SD/SDHC/SDXC
**Viewfinder** EVF, 2.36 million dots
**Max video resolution** 1,920 x 1,080
**ISO range** 100-25,600
**Autofocus** Dual Pixel CMOS AF, 49 points
**Max burst rate** 9fps, 7fps with AF
**Screen** 3.2in, 1,620k, tilting touchscreen
**Shutter speeds** 30-1/4,000 sec, Bulb
**Weight** 427g (body only, with battery)
**Dimensions** 116 x 89 x 61mm
**Power supply** LP-E17 lithium-ion battery (supplied)

*The aim is to provide enthusiasts with the speed, quality and handling of an EOS camera in a much smaller body*



**WHILE camera makers like Sony, Olympus, Fujifilm and Panasonic have been forging ahead with their high-profile mirrorless camera ranges, Canon has been quietly pottering away on a different path.** Its M-series models to date have been pretty conservative box-shaped shooters with a modest M-mount lens range – although they can take regular EOS lenses via an adaptor.

The EOS M5 is different. It's shaped more like a miniature SLR and has a built-in electronic viewfinder. This may not be a big selling point if you've just moved up from a smartphone, but for anyone weighing up the pros and cons of a SLR versus a mirrorless camera, the lack of a viewfinder is likely to be a deal-breaker.

The EOS M5 is Canon's flagship mirrorless camera, replacing the EOS M3 at the top of its line-up – though the EOS M3 continues, as does the entry-level E-M10. Canon says the aim with this camera is to provide enthusiast photographers with the speed, quality and handling of an EOS camera in a much smaller body. The new model presents Canon fans with an interesting dilemma: it's a fraction of the size of the Canon EOS 80D SLR, but it has the same sensor and many of the same features.

It's a tiny camera, but it still packs in a 24.2-megapixel APS-C sensor. The resolution is the same as the existing EOS M3, but the M5 has the more advanced Dual CMOS AF system found in the EOS 80D, where each photosite is split into 'left' and 'right' parts to offer on-chip phase-detection autofocus. This AF system works across 80% of the width and height of the frame. This sensor is matched up with a Digic 7 image processor, which offers in-camera diffraction correction for sharper images at super-small apertures and improved noise reduction.

The EOS M5 can tackle action too, at an impressive nine frames per

1 **The EOS M5 is usually sold with a compact 15-45mm lens, but it will also be available with this EF-M 18-150mm f3.5-6.3 IS STM 8x zoom.**

2 **The rear screen is not fully articulating, but it has a tilting mechanism and touch focus.**

3 **The M5 is the first mirrorless Canon to come with a viewfinder built in.**

4 **This is the EF-M 18-150mm kit lens option. The 15-45mm lens has a retracting mechanism and is much more compact.**



1

**Depth of field**

This is such a small camera that it's hard to believe it has an APS-C sensor. You can get really attractive background blur at wide apertures.

2

**Autofocus accuracy**

In low light, the EOS M5 does sometimes hunt a little, but in regular daylight the autofocus system is fast, accurate and responsive.

3

**Colour rendition**

The EOS M5's Standard picture setting delivers nice, saturated, accurate colour, although the Landscape mode is a little over the top.

second if the focus is locked on the first frame, or 7fps with autofocus. The specs don't include the buffer capacity, but Canon has posted a video introduction quoting a buffer capacity of 20+ raw images.

The M5 doesn't shoot 4K video, but it can shoot full HD at up to 60fps for smooth 2x slow-motion effects. It also has five-axis digital stabilisation; that's not the same as proper optical image stabilisation, but it should improve handheld footage whether or not the lens being used has built-in image stabilisation.

EOS M cameras use a different lens mount to the regular EOS range. There are just seven EOS M lenses at the time of writing. Designed principally for beginners and enthusiasts rather than pros, they collectively cover a range of focal lengths from 11-200mm, and they all come with Canon's STM stepper motor autofocus technology, for smooth operation while filming video.

The EOS M5 has Wi-Fi and NFC built in, but it also has always-on Bluetooth LE technology. The camera maintains a constant low-energy Bluetooth connection with your smartphone or tablet, so when you launch the Camera Connect app on your mobile device, it automatically launches a Wi-Fi connection.

### Build and handling

For such a small camera, the EOS M5 handles remarkably well. There's not a lot of room on the top plate, but Canon has still found room for a good-sized mode dial on the left, two control dials on the right and a separate EV compensation dial.

One of the control dials is for customisable camera functions. You press the central button repeatedly to choose the function, then turn the dial to change the setting. It works really well, but initially only two functions are assigned to it, and you have to dig >

## Meet the rivals...

The cameras in competition with the Canon EOS M5

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**Olympus Pen-F**
£1,100/$1,200
(US price body only)
The MFT sensor is smaller than the EOS M5's, but the Pen-F is a retro beauty that delivers great handling and super-sharp images.
Reviewed Issue 178



**Panasonic GX8**
£800/$1,000
(US price body only)
The 20MP GX8 is Panasonic's current flagship rangefinder-style camera. Prices are falling, and this prestige model looks good value now.
Reviewed Issue 170



**Sony Alpha 6300**
£1,100/£1,150
The 24MP APS-C sensor delivers excellent images and the autofocus is impressive, though there is an A6500 model just around the corner.
Reviewed Issue 179



The high-ISO image quality is good, although it falls off past ISO 6,400.

pretty deep in the custom settings menu to find out how to add more.

If you don't know where to find a particular shooting setting, chances are it's on the camera's Q Set screen, which displays a row of settings icons down the left and right of the screen.

The memory card and battery sit next to one another under a door on the base of the camera – a bit of a nuisance when you're changing cards, but a common compromise in small camera bodies. The lens retraction button on the 14-45mm kit lens is fairly flush with the lens barrel and a little fiddly to operate.

This lens has a plastic rear-mounting plate: this isn't unusual on low-cost kit lenses, but it's disappointing to find the more expensive 18-150mm kit lens option also has a plastic mount. The fact is that both these lenses feel a little cheap. They're not especially fast, either, since both have a maximum aperture at full zoom of just f/6.3.

## Performance

The M5's touchscreen focus works well, but if you use the viewfinder and the touch-focus feature on the main screen at the same time, it's all too easy to touch the screen accidentally with your nose and focus on something you didn't mean to.

While Canon's Dual Pixel autofocus is better than regular contrast autofocus, it seemed to hunt and fail sometimes in poor light situations, where we'd expect an EOS SLR to focus without any trouble. In good light the autofocus works fine. With the 15-45mm STM kit lens, it felt almost but not quite as snappy as a mid-range EOS SLR – and that's not bad in a camera squashed down to almost half the size.



Exposure accuracy was really good on the whole, although now and again, a high-contrast subject fooled the M5 into heavy underexposure.

The image results are very good, although the response of the Evaluative exposure metering system proved hard to predict. Very bright subjects led it to under-expose now and again, so we had to dial in some positive exposure compensation to restore brightness to the scene.

The dynamic range proved good but not exceptional in both our lab and real-world tests. Bright, overcast skies could be an issue, for example, as the camera tends to cut off the brightest areas fairly abruptly.

At ISO 1,600, the EOS M5's images look crisp, colourful and relatively noise-free at this setting. They're a little noisier and softer at ISO 3,200, and more so at ISO 6,400 – which is probably about as far as you'd want to go. The results at ISO 12,800 are still OK, but at the maximum setting of 25,600, the combined effect of noise, smoothing and general softness is pretty excessive.

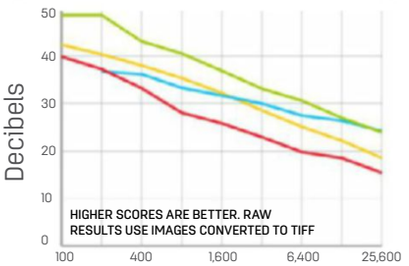
**Rod Lawton**

## COLOUR ERROR



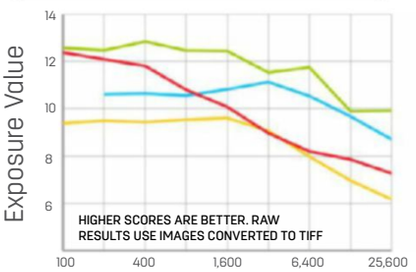

The EOS M5 yields very similar colour error results to its rivals, the Panasonic GX8 and Sony A6300. The Olympus Pen-F's results are a little more saturated.

## RAW SIGNAL-TO-NOISE RATIO




The EOS M5 may have an APS-C sensor, but it fares no better than the smaller-format GX8 and Pen-F in this test. The results are good right up to ISO 6,400, however.

## RAW DYNAMIC RANGE




Dynamic range was not really the EOS M5's strong point in our tests. It's still perfectly adequate for everyday use, but its rivals edge ahead in this respect.

## WE SAY...

The EOS M5 really opens up the SLR-versus-mirrorless debate. Many people like electronic viewfinders because they show the image exactly as the camera will capture it, but others prefer the visual clarity of an optical viewfinder. The M5 is tiny, where similarly powerful EOS SLRs like the 80D are big, but the lens range is restricted.

## VERDICT

| | |
|---|---|
| FEATURES | ★★★★☆ |
| BUILD & HANDLING | ★★★★☆ |
| PERFORMANCE | ★★★★½ |
| VALUE | ★★★☆☆ |
| OVERALL | ★★★★☆ |




SMARTPHONE www.apple.com

# Apple iPhone 7 Plus

## £719/$769

*New smartphone ups the ante with two lenses and a host of shooting modes*



**TODAY'S smartphones can match or exceed the image quality of regular compact digital cameras.** They offer a different way of engaging with both the camera controls and your subject.

The big news right now is the innovative twin-camera iPhone 7 Plus, which adds a 2x 'telephoto' camera to its existing 28mm-equivalent wide-angle unit. It's not just a twin-lens camera. It uses both cameras simultaneously and computational imaging to provide a seamless 10x zoom range well beyond the 2x optical limit of the telephoto camera – albeit a digital zoom.

### Build & handling

The built-in Camera app is simple to operate: you can leave it to set the focus and exposure automatically or tap anywhere on the screen to set the focus and exposure for that area. The on-screen zoom control is fiddly, however. As well as the Photo mode, there's a terrific Pano mode for shooting full-resolution panoramas in no more time than it takes to sweep the camera across the scene.

The 4K video quality is quite remarkable, and the Slo-Mo mode can capture HD video at 240fps. The Time-Lapse mode is great for sunsets and weather effects, but it speeds up moving objects a little too much.

The iPhone 7 Plus's unique Portrait mode uses both cameras and clever processing to 'fake' shallow depth of field and blurred backgrounds for portrait shots.

### Performance

The iPhone 7 Plus is great to use, but its picture quality is mixed. Colours and exposure are first-rate, but the fine detail rendition is a little too smoothed over. There is, however, an answer for those who use Adobe's Creative Cloud apps on iPhone. The Lightroom mobile iOS 2.6 app has an enhanced Camera module that offers manual control over shutter speed, ISO, white balance and focus, and can capture images in Adobe's DNG raw format.

**Rod Lawton**

1 This is the iPhone 7 Plus's main camera, a wide-angle with a 28mm equivalent f/1.8 lens.

2 The iPhone 7 Plus's second camera, a telephoto lens with a 56mm equivalent f/2.8 lens. The built-in camera app combines them for 'zooming'.

3 The Quad-LED True Tone flash provides (limited) illumination for stills and video.

### SPECIFICATIONS

**Sensor** 12MP 1/1.3-inch (wide), 12MP 1/3.6-inch (telephoto)
**Lens** 28mm equivalent f/1.8 (wide), 56mm equivalent f/2.8 (telephoto)
**Memory** 32-256GB
**Max video resolution** 4K
**ISO range** 25-1,600
**Autofocus points** N/A
**Max burst rate** 10fps approx
**Screen** 5.5-inch, 2,047k dots
**Shutter speeds** 1/4-1/10,000 sec
**Weight** 138g
**Dimensions** 138 x 67 x 7mm

### WE SAY...

Other phones have caught up with the iPhone for basic image quality, but effective HDR, seamless panoramas, twin-camera Portrait mode, 4K video and 240fps HD slow-motion keep the iPhone 7 Plus ahead of the game.

### VERDICT

| | |
|---|---|
| FEATURES | ★★★★★ |
| BUILD & HANDLING | ★★★★★ |
| PERFORMANCE | ★★★★☆ |
| VALUE | ★★★☆☆ |
| OVERALL | ★★★★½ |

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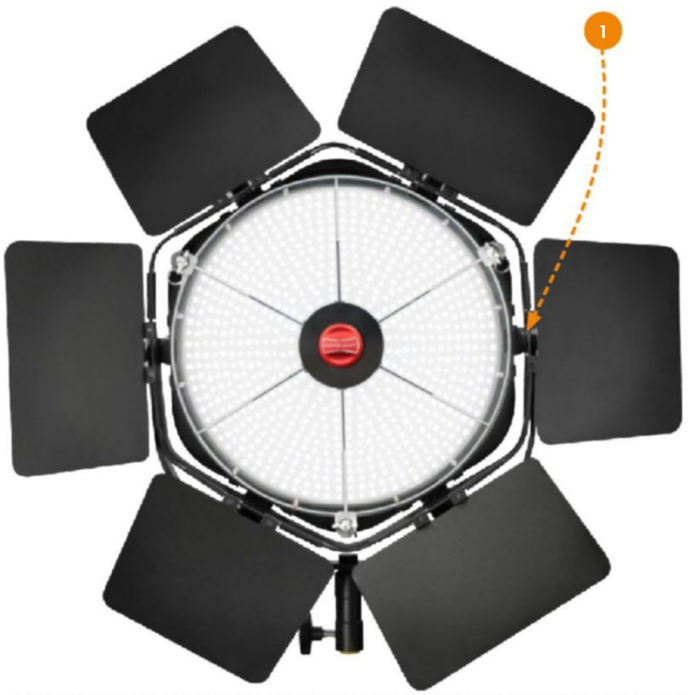
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# Rotolight Anova Pro

## £1,140/$1,500

*Is it time for continuous lighting to make a comeback?*



**THE Anova Pro comes in two versions: a Bi-Color unit or a brighter, fixed-colour unit (5,600K) which offers a useful 2EV (two stops) more illumination.** We've reviewed the Bi-Color model, which mixes the output from two LED types to provide a continuously adjustable colour temperature from 3,150K to 6,300K.

It's made in the UK to tight specifications in a market where, according to Rotolight, many panels do not offer a continuous and consistent spectrum in important colour ranges for portraits, such as reds and skin tones. The Anova Pro's continuous spectrum is a feature Rotolight is keen to stress.

It also has an innovative strobe feature that can fire the LEDs at 150 per cent of their normal continuous output, for durations as short as 1/2,500 sec. There's no recycle time: Rotolight is confident it can keep up with any continuous shooting rate with no missed frames, so it has the potential to freeze movement, like conventional flash.

### Performance

With a guide number of 24 at ISO 100 at a distance of 9 feet (3,795 lumens), the Bi-Color Anova Pro doesn't offer the power of studio flash, so you may need to rely on faster lenses or higher ISOs. With today's high-sensitivity sensors and the fashion for shallow depth of field, neither is an obstacle.

Outdoors, the Bi-Color Anova Pro doesn't really have the power to illuminate larger objects, such as cars, if it has full daylight to compete with – although it worked really well for a twilight automotive shoot. Even in regular daylight, however, it could prove a useful source of fill light at closer range for portrait shots.

Indoors, it comes into its own, offering a soft light for portraits in its 'naked' form. You may not need lighting modifiers since it's already a large and diffuse light source, and its shape produces circular catchlights, which are a bonus for portrait photographers.

**Rod Lawton**

1 The Anova Pro fits in a U-shaped yoke, which attaches to a regular lighting stand to allow both horizontal rotation and up/down angles.

2 Powered either by a mains adaptor or a V-Lock battery, the Anova Pro can be used both in the studio or on location.

3 All the work is done with these two large control dials: one for intensity (up to 100%) and the other for colour temperature (3,150K to 6,300K).

### SPECIFICATIONS

**Guide Number** _ 24 at ISO 100 at 9ft
**Illumination at 6ft (1.8m)** _ 1,760 Lux/164 foot candles/3,466 Lumens
**F-stop at 6ft (1.8m)** _ ISO 200 f/4.6, ISO 400 f/6.5, ISO 800 f/9.2
**Beam angle** _ Bi-Color 50 degrees (recommended), Bi-Color 110 degree (option)
**Colour temperature range** _ 3,150K-6,300K
**Included filters** _ Full Diffuser, Medium Diffuser, Cosmetic Peach, 1/8 Minus Green, 1/2 Minus Green
**Power consumption** _ 48W at 100% power
**Power supply** _ Mains adaptor (supplied), V-Lock battery (extra)

### WE SAY...

**The Anova Pro is heavy and pricey, but offers the intuitive operation of continuous lighting, excellent colour control in mixed lighting, and a strobe mode if you need it.**

### VERDICT

| | |
|---|---|
| FEATURES | ★★★★★ |
| BUILD & HANDLING | ★★★★½ |
| PERFORMANCE | ★★★★☆ |
| VALUE | ★★★★☆ |
| OVERALL | ★★★★½ |



# ALTERNATIVE PICTURE EDITORS

*Rod Lawton looks at Photoshop alternatives to see how they measure up*

**ADOBE'S Photography Plan includes Photoshop and Lightroom, and is now a compelling proposition for any serious photographer.** But do any of the rival programs on the market do enough to tempt people away from the obvious photo-editing choice?

First, are there any programs that can achieve the same things for considerably less money? We've got a couple of candidates for this, notably Affinity Photo and PaintShop Pro. The other common complaint against Photoshop and Lightroom is that they're not very novice-friendly, and both Photoshop Elements and PaintShop Pro are designed for non-experts. But can you get better quality? Camera Raw, used as the raw engine for both Photoshop and Lightroom, is certainly powerful, but two strong rivals here are Optics Pro and Capture One Pro.

Lightroom offers cataloguing tools that are too powerful and complex for many, and Photoshop relies on photographers knowing exactly what they want to create and knowing exactly how to do it – so we've included Alien Skin Exposure X2 as the dark horse in this line-up.

## THE CONTENDERS

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| 3 | Alien Skin Exposure X2 | $149 |
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| 8 | Serif Affinity Photo 1.5 | £40/$50 |

Shutterstock






# ACDSee Ultimate 10

Windows (macOS: ACDSee Pro 3)

$100

*Pricey and offers little that's different*

**ACDSEE Ultimate 10 is billed as an all-in-one digital asset manager and editor, so at first glance it seems to cover similar territory to Lightroom.** There are, however, some important differences. First, it doesn't have to catalogue your images in a central database. It can work as a folder browser like Adobe's Bridge, complete with ratings, tags and labels. You can create Collections to group related images without moving them on your hard disk and apply batch processing, and metadata templates with adding keywords and copyright information.

If you want to create Smart Collections or use the program's Photos timeline view, you need to import them into ACDSee's image catalogue, which takes about as long as importing into Lightroom.

ACDSee also has a pixel-based Edit mode with a greater range of adjustments and effects than is possible in Lightroom. The big difference is that ACDSee supports layers, so you can create image composites with layers, masks and blending modes.

It's not Photoshop, but it's probably powerful enough for beginners and enthusiasts.

1. The ACDSee window includes Manage, Photos, View, Develop and Edit modules.
2. Unlike Lightroom, ACDSee also has pixel-based image-editing tools and effects.
3. Editing tools are arranged in a vertical panel down the left side of the screen.

**PERFORMANCE**

ACDSee Ultimate 10 offers built-in raw conversion and lens corrections (distortion and perspective), plus Clarity and Dehaze tools. Results are good and there's no shortage of tonal and colour control, including ACDSee's own Light EQ tools for adjusting individual ranges within the overall tone scale.

**WE SAY...**

ACDSee Ultimate is powerful enough, but is neither as cheap nor as good as the Lightroom/Photoshop combination in Adobe's Photography Plan.

**VERDICT**

| | |
|---|---|
| FEATURES | ★★★★☆ |
| EASE OF USE | ★★★☆☆ |
| PERFORMANCE | ★★★★☆ |
| VALUE | ★★★☆☆ |
| OVERALL | ★★★★☆ |




# Adobe Photoshop Elements 15

Windows/macOS

£65/$80

*Good for novices, but it has its limits*

**PHOTOSHOP Elements is actually two programs, not one.** You import, tag, organise and search your photos with the Organizer; but when you need to carry out more advanced photo manipulation tasks, you open photos in the Editor instead.

The Organizer is now touch-enabled for supporting hardware. Its search feature has been enhanced to include combinations of places, events and favourite subjects, and a new Smart Tags feature can automatically tag common subjects like sunsets, birthdays, dogs and cats.

The Editor has three operating modes. The Quick mode offers simple everyday adjustments; the Guided mode offers interactive walkthroughs for more complex effects; and the Expert mode is like a mini-Photoshop.

Elements 15 brings five new Guided Edits – Photo Text, Painterly, Effects Collage, Speed Pan and Frame Creator – taking the number of Guided Edits to 45. These are one of Elements' strong points: you don't just get an interesting image at the end, you learn all about the different editing principles along the way.

1. The Quick, Guided and Expert modes cater for three different user levels.
2. The Guided mode walks you through the tools that are used for the popular image effects.
3. Elements is powerful enough to create some sophisticated and intricate images.

**PERFORMANCE**

Elements offers many of the same tools as Photoshop. It's easy to create layers, selections and montages and, while it does miss out on some Photoshop tools, it can still create some quite advanced effects. The bigger problem is the highly simplified version of Adobe Camera Raw it ships with.

**WE SAY...**

The Elements/Organizer double-act is good for those who might struggle with Photoshop, but its features are cut back, especially raw editing.

**VERDICT**

| | |
|---|---|
| FEATURES | ★★★★☆ |
| EASE OF USE | ★★★★★ |
| PERFORMANCE | ★★★★☆ |
| VALUE | ★★★☆☆ |
| OVERALL | ★★★★☆ |




# Alien Skin Exposure X2

Windows/macOS

$149

*Perfect for analogue film effect fans*

**YOU can use Exposure X2 as a plug-in filter for Photoshop or Lightroom; but it also works as a stand-alone app.** It has built-in folder browsing tools and the ability to add keywords, ratings and colour labels, batch-rename photos, and sort and filter photos on various different criteria.

The multitude of analogue, retro, low-fi and cinematic effects that form the backbone of the software can be applied via single-click presets, arranged in categories in a vertical panel on the left of the screen. They're applied non-destructively, so you can change the settings at any time.

The effects are built from a whole series of adjustments which include regular tone and colour adjustments as well as light leaks, textures, image frames, film simulations and more. These tools can be combined in all kinds of permutations, and you can brush adjustments on to localised areas.

Exposure X2 doesn't do everything that Photoshop does, but you can send images straight from Exposure X2 to Photoshop and save them back to the same folder, where they'll appear in the folder browser.

1. Exposure X2 specialises in analogue effects like distressed borders and light leaks.
2. The editing tools are displayed as a stack of expandable palettes in the right sidebar
3. The left sidebar (hidden here) displays your image folders and the preset effects library.

**PERFORMANCE**

Exposure X2 can handle regular levels, curves, colour and other enhancements, but its effects first approach is designed for inspiration, uniqueness and a hand-finished look. Exposure X2 does this straight out of the box; while you could perhaps achieve the same in Photoshop, it'd take a long time to get there.

**WE SAY...**

Alien Skin Exposure X2 delivers a vast collection of preset effects backed up by fast browsing and powerful image adjustments.

**VERDICT**

| | |
|---|---|
| FEATURES | ★★★★☆ |
| EASE OF USE | ★★★★★ |
| PERFORMANCE | ★★★★★ |
| VALUE | ★★★★☆ |
| OVERALL | ★★★★★ |




# Corel PaintShop Pro X9

Windows

£54/$64

*Raw fans might be disappointed*

**PAINTSHOP Pro is one of the faithful standbys of the photo-editing market.** It's an independent alternative to Adobe software that combines an all-in-one, novice-friendly approach with a good deal of power at a lower price point.

Beyond the standard edition, there's also an Ultimate edition that includes Corel's higher-end AfterShot Pro 3 Lightroom rival, offering more sophisticated raw conversion and editing tools than those built into PaintShop Pro. You also get PerfectlyClear 2 SE for quick, automated image corrections; Live Screen Capture recordings; and the Corel Creative Collection, featuring brushes, textures and royalty-free images.

PaintShop Pro is split into three modules. The Manage module is for browsing and organising your photos, the Adjust module for enhancements, and the Edit mode for more in-depth manipulation.

The full range of PaintShop Pro's editing tools include Photoshop-style layering, grouping and masking tools, and a wide range of image adjustments.

Corel is aiming PaintShop Pro not just at photographers, but at business users too.

1. Paint Shop Pro X9 has some powerful editing tools, including HDR-style Tone Mapping.
2. The Manage, Adjust, Edit workflow keeps things simple.
3. The Learning Center panel is very useful in the beginning while you're getting orientated.

**PERFORMANCE**

10 commonly used adjustments now work in real time, but the Camera Raw Lab is a disappointment, with only basic controls. Keen photographers should look at the PaintShop Pro Ultimate edition, which includes AfterShot, the company's Lightroom equivalent, for only a small extra outlay.

**WE SAY...**

The poor raw file editing tools in PaintShop Pro make the Ultimate bundle (which adds AfterShot 3) a better proposition for enthusiasts.

**VERDICT**

| | |
|---|---|
| FEATURES | ★★★★☆ |
| EASE OF USE | ★★★☆☆ |
| PERFORMANCE | ★★★☆☆ |
| VALUE | ★★★★☆ |
| OVERALL | ★★★☆☆ |





# Cyberlink PhotoDirector 8 Ultra

Windows/macOS

£80/$100

*A Lightroom look-alike with neat tools*

**PHOTODIRECTOR 8 looks a lot like Lightroom initially, with integrated photo cataloguing tools, non-destructive image enhancements and a selection of preset image effects.** But it goes a step further with an Edit mode for pixel-based adjustments too complicated for non-destructive editing. If you get the Ultra or Suite editions, there's a Layers module for combining images and text in more elaborate composites.

PhotoDirector doesn't attempt to play the 'no need to import images' card. Like Lightroom, it uses a database style image catalogue for flexible organisation and faster searches, so you do need to import your photos before you can work on them.

Once that's done, you can browse through your images according to the physical folders they're stored in, create Collections of related images or Smart Collections based on a range of criteria like keywords, shooting data and even adjustments applied.

You can select any image in the Library module, then swap to the Adjustment, Edit, Slideshow, Layers or Print modules, according to what you want to do with it.

1. PhotoDirector's editing tools are almost an exact match for Lightroom's.
2. The Edit and Layers modules (Ultimate edition) add pixel-based editing tools.
3. Alongside the Manual adjustments is a Presets tab for single-click effects.

**PERFORMANCE**

PhotoDirector is easy to use and matches Lightroom's editing options. The supplied preset effects are good and it's easy to modify them or create your own. The pixel-based tools are aimed at non-experts, but include some clever processes. You can't send photos to another image editor or plug-in software though.

**WE SAY...**

It's slick, fast, easy and modern-looking, but PhotoDirector 8 lacks external editor and plug-in support, which could prove limiting.

**VERDICT**

| | |
|---|---|
| FEATURES | ★★★★½ |
| EASE OF USE | ★★★★½ |
| PERFORMANCE | ★★★★☆ |
| VALUE | ★★★★☆ |
| OVERALL | ★★★★½ |

# DxO Optics Pro 11 Elite

Windows/macOS

€199

*Optical perfection, but very expensive*

**OPTICS Pro is designed around a single core concept – optical perfection.** It achieves this using lab-developed correction profiles for a vast and ever-increasing number of camera-and-lens combinations. It fixes lens distortion, corner shading, chromatic aberration and even edge softness. And if it doesn't have the necessary correction profile already, it checks the DxO site and prompts you to download it.

Optics Pro works on both JPEG and raw files (provided both come straight from the camera), and its raw conversion quality is every bit as impressive as its optical corrections – particularly its noise control. Earlier versions of Optics Pro had perspective correction controls built in, but these have now been spun out into the separate DxO ViewPoint application. If ViewPoint is installed, it integrates fully with DxO Optics Pro.

DxO has also branched out into analogue film effects simulation with DxO FilmPack 5. This is a separate program that integrates with DxO Optics Pro. If you're interested in this and ViewPoint 2, the DxO Photo Suite package is the most cost-effective option.

1. You use the Organize pane to manage and select images, and the Customize pane to edit them.
2. The editing tools are powerful but often complex to figure out – especially Smart Lighting.
3. Prime noise reduction (Elite edition) is slower to process, but produces excellent results.

**PERFORMANCE**

DxO Optics Pro's default conversions are accurate, and for raw image quality, it's a close-run thing between this and Capture One Pro. The Smart Lighting controls for balancing highlights and shadows are effective but complicated, and you have to pay for ViewPoint 2's perspective corrections.

**WE SAY...**

A brilliant but rather specialised editor, DxO Optics Pro really needs the ViewPoint 2 add-on in order to be able to achieve its full potential.

**VERDICT**

| | |
|---|---|
| FEATURES | ★★★☆☆ |
| EASE OF USE | ★★★☆☆ |
| PERFORMANCE | ★★★★★ |
| VALUE | ★★★☆☆ |
| OVERALL | ★★★★½ |




# Phase One Capture One Pro 10

Windows/macOS

€349

*Stunning but pricey Lightroom-beater*

**CAPTURE One Pro comes from Danish medium-format specialist Phase One, a company that also makes high-end medium-format cameras.** Capture One Pro has traditionally been used as a tethered shooting tool for studio photographers for controlling cameras remotely and making on-the-fly image adjustments.

The software supports camera raw files from other brands and works as a regular stand-alone raw conversion and image enhancement tool. (It works with JPEGs too.) It now incorporates an image cataloguing database and powerful localised adjustment tools, making it a very close rival to Lightroom.

Version 10 brings improved processing speeds; a new three-step sharpening system, including diffraction correction and halo control; improved Auto Mask support; and easier folder management. There are also more sophisticated proofing tools, which join a powerful set of global adjustment tools. These include automatic lens corrections via lens profiles, in-built perspective correction tools and powerful tone and colour controls.

1. You can import photos into the Capture One Pro catalogue or use Sessions for tethered shooting.
2. The editing tools are organised into a row of Tool Tabs, although these can be customised.
3. Capture One Pro includes localised adustments and built-in perspective correction tools.

**PERFORMANCE**

Capture One's raw conversion quality is a step above Adobe Camera Raw's, with a better combination of sharpness and low noise. Its ability to render fine detail is exceptional and its tab-based adjustment workflow is efficient. The layers-based localised adjustments are just as powerful as Lightroom's.

**WE SAY...**

Insanely expensive for a Lightroom replacement, but stunning. You may still need a pixel-based editor like Photoshop though... or Affinity Photo.

**VERDICT**

| | |
|---|---|
| FEATURES | ★★★★☆ |
| EASE OF USE | ★★★★☆ |
| PERFORMANCE | ★★★★★ |
| VALUE | ★★★☆☆ |
| OVERALL | ★★★★★ |




# Serif Affinity Photo 1.5

Windows/macOS

£40/$50

*A powerful, fast Photoshop replacement*

**AFFINITY Photo has been designed from the ground up to be a professional-level Photoshop competitor, offering feature-for-feature parity with high-speed, real-time previews.** It's the cheapest program on test, but this is down to Serif's highly competitive pricing, rather than any lack of power or capability.

Initially this was a Mac-only product, but version 1.5 is available for Windows too. Other new features include built-in HDR Merge, a Tone Mapping Persona, built-in Focus Merge, macros and batch processing.

Affinity Photo is purely an image-editor, not an all-in-one photo cataloguing and editing tool. While it does have an effective little Media Browser, you'll have to look elsewhere for photo filtering, searching and cataloguing tools.

Regular adjustments are carried out using adjustment layers. These come with masks and blend modes, which preview 'live' as you cycle through the menu. There's a range of in-built Photoshop-style filter effects plus a fast and powerful Lighting filter for 'relighting' your photos, panorama stitching, haze removal, blur effects and more.

1. Affinity Photo offers different workspaces, or Personas, including a new Tone Mapping Persona.
2. Photoshop users will quickly feel at home with the editing tools on the left side of the screen.
3. Adjustments can be applied non-destructively using layers, masks and blend modes.

**PERFORMANCE**

Affinity Photo is fast, slick and effective, although the Develop Persona's raw conversions need a little extra effort for the best results. The power, speed and potential are obvious however. This is a tool for professional photographic and design use, and at a much lower, subscription-free price.

**WE SAY...**

It's very fast, powerful and extraordinarily good value for money. A few rough edges aside, Affinity Photo is a proper Photoshop alternative.

**VERDICT**

| | |
|---|---|
| FEATURES | ★★★★½ |
| EASE OF USE | ★★★★☆ |
| PERFORMANCE | ★★★★★ |
| VALUE | ★★★★★ |
| OVERALL | ★★★★★ |




THE WINNER

# Capture One Pro 10

*Capture One captures first place*

**MOST of us are on a constant quest for quality, either with a new camera or new and more expensive lenses – but the software we use is a third factor we often overlook.** By taking such a diverse approach to photo-editing tools in this round-up, we're inevitably going to be comparing programs that don't really do the same things. Please keep this in mind when comparing comments and ratings.

We award Capture One Pro our top prize with the understanding it's not for everyone. It doesn't do special effects in the way that Exposure X2 does, and it can't create composite images like Affinity Photo. But if your primary interest is single photographic images and extracting the best possible quality from them, it's brilliant.

**WHAT'S GOOD:** Superb raw conversions, powerful tools and a logical, customisable workflow.

**WHAT'S BAD:** No pixel-based editing or image layers; expensive.

**OUR VERDICT:** ★★★★★
It's not cheap, but Capture One Pro's quality is superb.




RUNNERS UP

## Alien Skin Exposure X2

**WHAT'S GOOD:** Inspiring effects at the click of a button, backed up by powerful tools and adjustments.

**WHAT'S BAD:** The folder-based browsing is basic; you don't get pixel-baseds tools and layers.

**OUR VERDICT:** ★★★★★
Exposure X2's evocative analogue looks are the perfect antidote to the more mechanical approach of Photoshop.




## Serif Affinity Photo 1.5

**WHAT'S GOOD:** Photoshop power at a fraction of the price, and with some smart innovations too.

**WHAT'S BAD:** Raw conversions could be better; there are no browsing/asset management tools.

**OUR VERDICT:** ★★★★★
A professional tool at a jaw-dropping price, Affinity Photo is a genuine Photoshop rival even for pros.

| HOW THE SOFTWARE COMPARES | ACDSee Ultimate 10 | Adobe Photoshop Elements 15 | Alien Skin Exposure X2 | Corel PaintShop Pro X9 | Cyberlink PhotoDirector 8 Ultra | DxO Optics Pro 11 | Phase One Capture One Pro 9 | Serif Affinity Photo 1.4 |
|---|---|---|---|---|---|---|---|---|
| Website | www.acdsee.com | www.adobe.com/uk | www.alienskin.com | www.corel.co.uk | www.cyberlink.com | www.dxo.com | www.phaseone.com | www.serif.com |
| Street price | $100 | £65/$80 | $149 | £54/$64 | £80/$100 | €199 | €349 | £40/50 |
| Catalog/Browser | ✓ | ✓ | Browsing | ✓ | ✓ | Browsing | ✓ | Browsing |
| RAW Processing | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Image layers | ✓ | ✓ | ✗ | ✓ | ✓ | ✗ | ✗ | ✓ |
| Plug-ins | ✓ | ✓ | ✗ | ✓ | ✗ | ✗ | ✗ | ✓ |
| FEATURES | ★★★★☆ | ★★★★☆ | ★★★★☆ | ★★★★☆ | ★★★★½ | ★★★☆☆ | ★★★★☆ | ★★★★½ |
| EASE OF USE | ★★★☆☆ | ★★★★★ | ★★★★★ | ★★★☆☆ | ★★★★½ | ★★★☆☆ | ★★★★☆ | ★★★★☆ |
| PERFORMANCE | ★★★★☆ | ★★★★☆ | ★★★★★ | ★★★☆☆ | ★★★★☆ | ★★★★★ | ★★★★★ | ★★★★★ |
| VALUE | ★★★☆☆ | ★★★☆☆ | ★★★★☆ | ★★★★☆ | ★★★★☆ | ★★★☆☆ | ★★★☆☆ | ★★★★★ |
| OVERALL | ★★★½☆ | ★★★★☆ | ★★★★★ | ★★★½☆ | ★★★★☆ | ★★★★☆ | ★★★★★ | ★★★★★ |

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# UNIVERSAL CHARGERS

*Six chargers that promise to refuel almost any camera battery*




www.ansmann.de/en

## Ansmann Powerline Vario

£25/$21

Almost as compact as the CamCaddy2, the USB-powered Powerline with its handy LCD charged all our batteries, albeit reluctantly for the Canon LP-E6N and Sony NP-FM500H cells.

OVERALL ★★★★½




www.digipowersolutions.com

## Digipower Universal Smart Battery Charger TC-5000U

£40/$40

This design ditches movable contact pins in favour of swappable mounting plates for Canon, Nikon and Sony batteries. It works well; just don't lose the plates!

OVERALL ★★★½☆




www.amazon.co.uk

## Generic Universal Battery Charger

£8

With a status light that gave no charging indication, we couldn't tell if this cheapo charger was even working. If you do get lucky, the low output current means juice won't flow quickly.

OVERALL ★★☆☆☆




www.hahnel.ie

## Hähnel UniPal Extra

£35/$49

This unit packs a 5200mAh power bank for on-the-go charging. There's mains charging, too, and the UniPal charged all our camera batteries without issue.

OVERALL ★★★★★




www.myinov8.co.uk

## Inov8 Universal Li-ion Charger

£15

It'll charge AA batteries, and its movable pins were able to successfully contact all our test camera batteries. The LCD display is basic but useful.

OVERALL ★★★★½



www.solartechnology.co.uk

## Solar Technology CamCaddy2

£20

USB charging makes this the smallest option here. Our Canon, Nikon and Fujifilm batteries all charged, but not the Sony A99's unusual power pack.

OVERALL ★★★★☆

*We tested six common batteries on these chargers. Always check yours with the manufacturer's compatibility chart before buying.*

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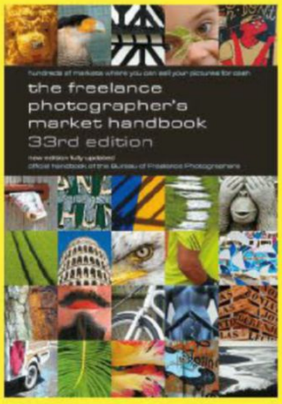


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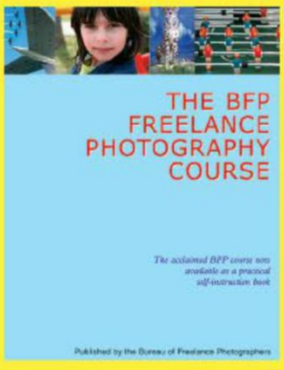

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# CAMERA JACKETS

*Suit up and get shooting this spring, without worrying about the weather*

1




http://store.cooph.com

## Cooph Field Jacket

$423

**COOPH (the Cooperative of Photography) has made a reputation for producing stylish yet functional clothing and accessories for photographers.** Its Field Jacket is a great case in point: it manages to be practical while also looking respectable when you're not on a shoot.

Its lightweight cotton fabric is related to that worn by WWII pilots and is cut to allow easy movement, yet it feels very rugged and does a good job of repelling rain water.

Pockets aren't quite as plentiful as they are on some rival designs, but the essentials are here. Four front pockets are perfect for quick lens access, and the lower two contain an extra pair of pouches to stash smaller items. Three more pockets can be found inside, but unfortunately there aren't any side pouches for maps, or lower ones for your hands. You don't get a hood either, which is a pity at this price.

OVERALL ★★★★½

2



www.countryinnovation.com

## Country Innovation Raptor Waistcoat

£125

**PACKING more pockets than a pool hall – 15, to be precise – this waistcoat can store a huge amount of gear.** Two expandable lower front pockets easily swallow a lens each, and a pair of chest pockets above can house another two optics. Behind these are spacious side-access slots ideal for maps or guide books; if you fancy carrying a rain poncho or even a tablet, these can be stowed in huge internal and external rear pouches. Extra inner compartments provide a home for smaller accessories.

Military-grade Rip-Tec ripstop fabric and rugged construction ensure the waistcoat can cope when fully loaded, and it repels water well. Other nice touches include shoulder padding and a substantial neck collar to help ease the strain of a camera strap or shoulder bag.

Sizes range from Small to XXXXL, and we found our Medium example shaped up to expectations.

OVERALL ★★★★½

3




www.countryinnovation.com

## Country Innovation Traveller Jacket

£175

**COMPARED with the Raptor, this jacket's outer fabric doesn't feel quite so substantial, but it's easy to move in, and quiet.** It's also windproof yet breathable; water instantly beads off the waterproof coating, so you and your gear will stay dry.

The Traveller shares the same size range as the Raptor and fits as expected, but has the added advantage that it can double as an everyday raincoat. It's not compromised on a shoot, though, with 13 pockets scattered outside and in to provide decent kit stowage. Two huge lower front pockets are ideally suited to lenses, and there's a pair of side slots for maps, and a couple of hand pouches. The detachable hood incorporates a drawstring and wired peak.

Inside the Traveller jacket, the soft Innovation XL lining provides some warmth without adding bulk, while also wicking away moisture.

OVERALL ★★★★★

## FIVE THINGS TO LOOK OUT FOR...

**1 THE PERFECT FIT** Try before you buy. A drawstring waist and hems and adjustable cuffs can take up some slack.

**2 A PLACE FOR EVERYTHING** You can never have too many pockets, especially if one is able to stash a lens.

**3 STAYING STEALTHY** Your jacket should be the right colour, but also made from rustle-free fabric.

**4 KEEP DRY** Coated fabrics repel water, while a hood with a wired peak should provide weather protection.

**5 BREATHE EASY** It's all well and good keeping the rain out, but breathable fabrics ensure your moisture can escape.

4



www.cameraclean.co.uk

### Just Photographers Shooting Vest

£48

**IT'S by far the cheapest option here – yet this waistcoat still features 12 pockets, including a selection of large front pockets capable of stashing some lenses.** Extra accessories will find a home in numerous smaller zippered pockets, and this is another waistcoat with a large back compartment, suitable for a lightweight raincoat.

There are also extras like a removable identity card pouch and a small sun hood that packs discreetly away in a slot behind your neck. This isn't designed to keep the rain at bay, though, and neither is the rest of the vest, with the fabric letting water soak through to your gear. The material and construction also reflects the price tag: compared with the rugged Raptor, this doesn't feel as though it would stand up to frequent use.

At least there's some extra neck and shoulder padding to help ease strap strain, even if you don't get a collar.

**OVERALL** ★★★☆☆

5



www.paramo.co.uk

### Páramo ARWP Spec Aspira Waterproof Smock

£315

**THIS smock goes all-out to be the ultimate photography garment.** It's worn more like a jumper than a jacket, but a large zippered front flap lets the smock hang when you're crouching.

Closeable armpit vents increase comfort in hot environments, as does the breathable Nikwax Analogy fabric. This is great at repelling water, and the rain resistance continues with an excellent wraparound hood that includes a stiffened peak. The attention to detail continues courtesy of reinforced fabric to protect the lower arms when you lie low.

The only weak link is gear storage: this smock is designed for wildlife photography, where you'd use super telephoto lenses that can't be carried in clothing. You get a single spacious front pocket, but the two chest pockets are small and accessed via noisy Velcro.

**OVERALL** ★★★★½

6



www.paramo.co.uk

### Páramo Halcon Traveller

£130

**THE Halcon Traveller gets off to a good start, thanks to a light design that packs small.** It'll also look the part in the city as well as the country, especially if you go for this dark grey version. Brown and green options are also available, in sizes between XS and XXL, and there were no sizing surprises with our Medium sample.

In such a lightweight jacket, the four main front pockets feel a little less substantial than those on the Country Innovation products, but they are large enough to hold a lens each. You get a further eight pockets, including four inside and a couple of handwarmer pockets. Another nice touch are the poppered side slits that stop the jacket rucking up when crouching for a shot.

Páramo markets this jacket as being best suited to sun, wind and shower protection. It's not waterproof, though, as droplets soak into the Cotton+ fabric rather than beading off it.

**OVERALL** ★★★½☆




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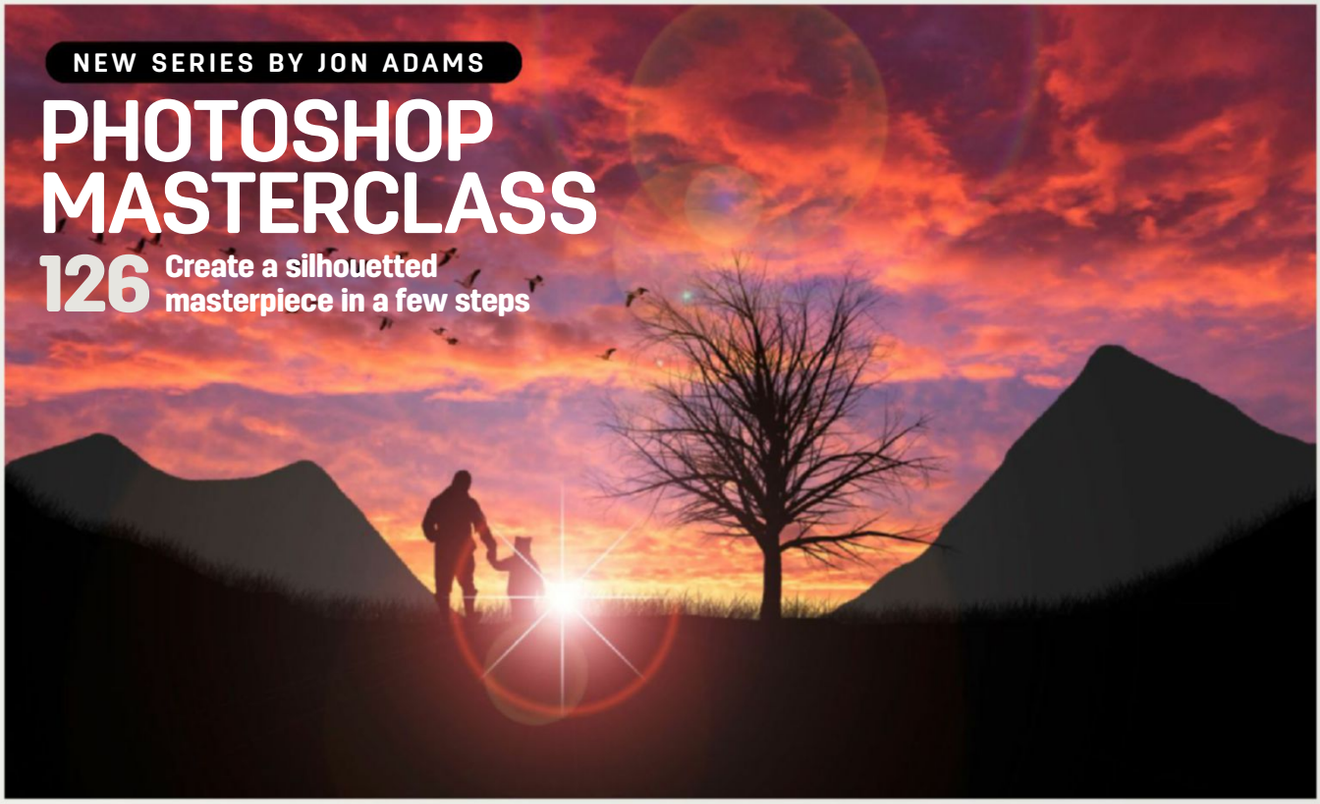
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### Tool School

Get to grips with Photoshop's Render Filters to enhance your shots



**134**

### Artist Insight

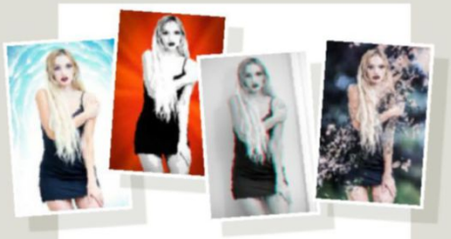
James Abbott reveals how to use Layer Masks to create a surreal composition in Photoshop



**138**

### Creative Spotlight

James Paterson shows you how to get creative with your cut-outs



# CREATE STRIKING SILHOUETTES FROM SCRATCH

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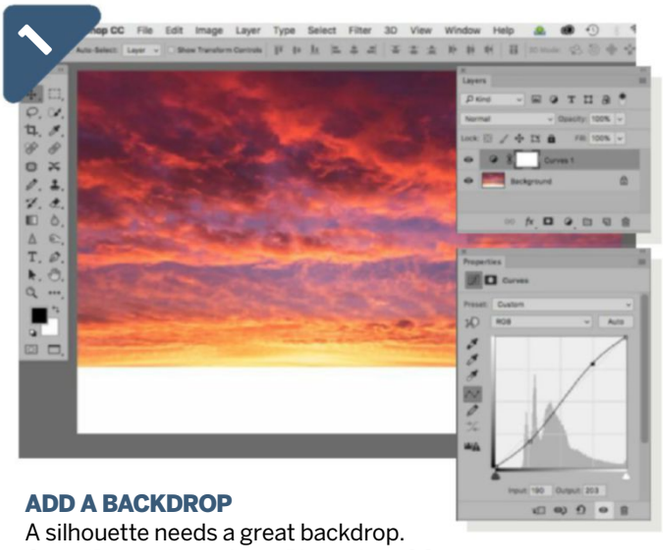



**MUCH of the art of photography is reactive, in the sense that you apply your creative choices to the subject or scene that nature serves up.** You see a great view, and you respond by picking the best angle, focal length and exposure settings to capture it.

But there's an alternative approach to image-making that can be just as rewarding – and it really makes you think about the fundamentals of creating a picture. Instead of reacting to what you see, you create an entirely new scene from scratch, determining the position of every element.

Silhouetted scenes are the perfect starting point for exploring this form of imagery. A quick look through your files will unearth plenty of potential subjects, from buildings to figures. In this tutorial you'll not only discover how to do this, but also how to add touches of detail that add extra character to your silhouettes – and even how to create computer generated focal points. It's a fusion of photo and art techniques and you'll learn how to use your shots as the raw materials for creating something entirely new.

1



### ADD A BACKDROP

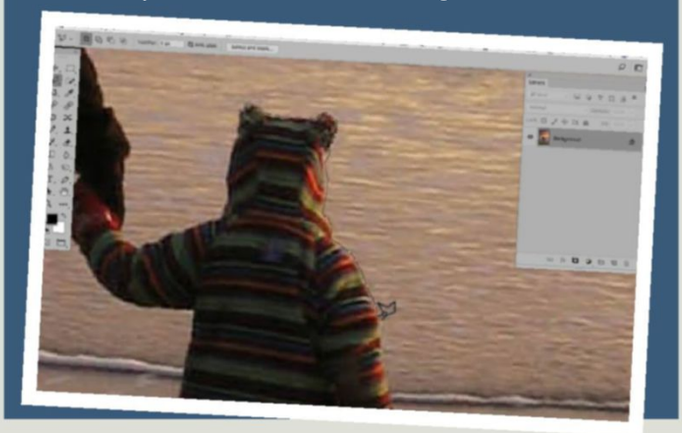
A silhouette needs a great backdrop. Open 'Dawn sky.jpg' into Photoshop CC, or use your own picture of a sunrise or sunset. To get the sunset away from the base of the image, press Ctrl/Cmd+A to select the frame, then press Ctrl/Cmd+T to enter Free Transform mode. Pull the bottom handle up so the sunset starts about a quarter of the way up the image and press Return. Press Ctrl/Cmd+D to lose the selection lines. To boost the contrast, click the Adjustment Layer icon in the Layers panel, and choose Curves. In the palette, pull the line down slightly about a quarter of the way along, and push it up a bit at the three-quarters mark to create a shallow S curve.

## How to make a manual selection

EXPERT TIP

### Sometimes you have to select manually

If you can't get a clean selection of a subject using the Quick Selection tool, then switch to the Polygonal Lasso tool and make a fully manual selection instead. Zoom in tight on the edge of the subject, and click around it in small steps. It doesn't take long, and you're always in full control of the selection you make. When you've clicked all the way around the subject and have returned to your starting point, a final click will complete the selection and leave the item surrounded with 'marching ants'.



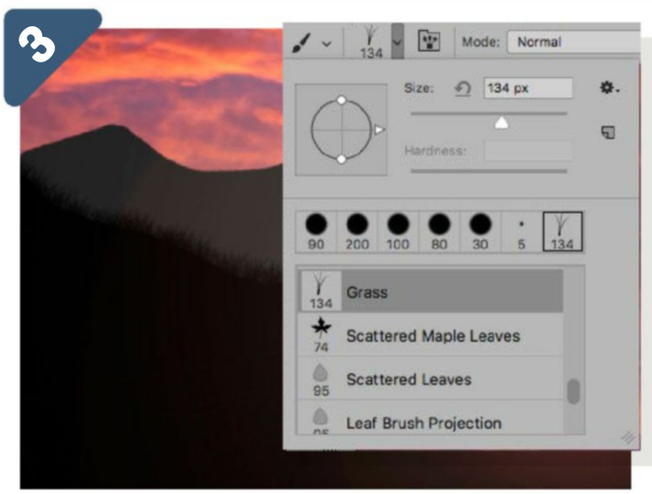
2




### PAINT IN THE GROUND

Create a new layer (Ctrl/Cmd+Alt+Shift+N) and press D to set the foreground colour to black. Select the Brush tool and pick a hard-edged brush tip from the Brush Preset Picker in the Options bar. Use the square brackets to adjust the size to 100px, then paint a line across the picture to create the 'ground' in your image. Ramp it up to the right and left to give the feel of a rugged landscape, but leave a relatively flat area in the middle. Once you've sculpted your ground, you'll have a jet-black base for the other silhouetted components in your image.

3




### GROW SOME GRASS

To give a sense of realism and detail to the ground, click the Brush icon in the Tool Options bar, then click on the 'cog' icon in the top-right of the Brush Preset Picker. Select Large List from the options, then scroll down to click on the 134 Grass brush. With this selected, set the Brush Mode to Multiply in the Options bar, then create a new layer (Ctrl/Cmd+Alt+Shift+N). In the Layers panel, set the Blend Mode to Multiply. Paint across the flat piece of land in your image, to see some silhouetted grass grow. Vary the size of your Grass brush with the square brackets keys to get a good effect.

4



### BUILD VIRTUAL MOUNTAINS

To add depth to your basic scene, create another new layer (Ctrl/Cmd+Alt+Shift+N) and drag it down in the Layers panel so it sits above the sky and its Curves Adjustment Layer, but beneath the ground. Click on the foreground colour swatch; in the Color Picker, you'll see pure black selected. To make this slightly brighter, set the B value in the dialog box to 15%. Click OK, then select the Brush tool again. In the Options bar, pick a hard-edged brush, and set the Mode to Normal. Paint in a couple of shapely mountains.

## Take great care with lens flare

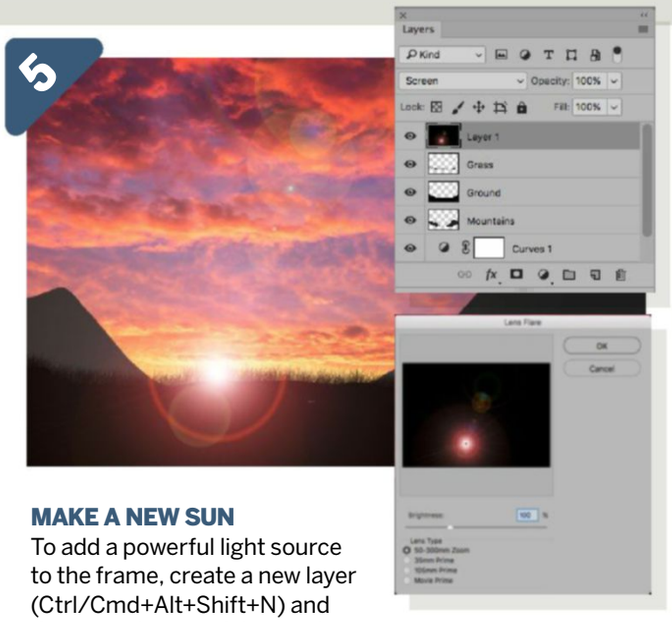
EXPERT TIP

### Avoid unnatural lines in your image

When you use a lens flare on a separate black layer to create a digital 'sun' in the sky, it's important to ensure that the black background extends all the way across the frame. If you move the sun layer and can see a transparent edge in the Layers panel, this can often be seen on the image as an unnatural line. To avoid this, either paint in any transparent areas with a soft, black brush, or extend the sun's layer to cover the whole frame using Free Transform.



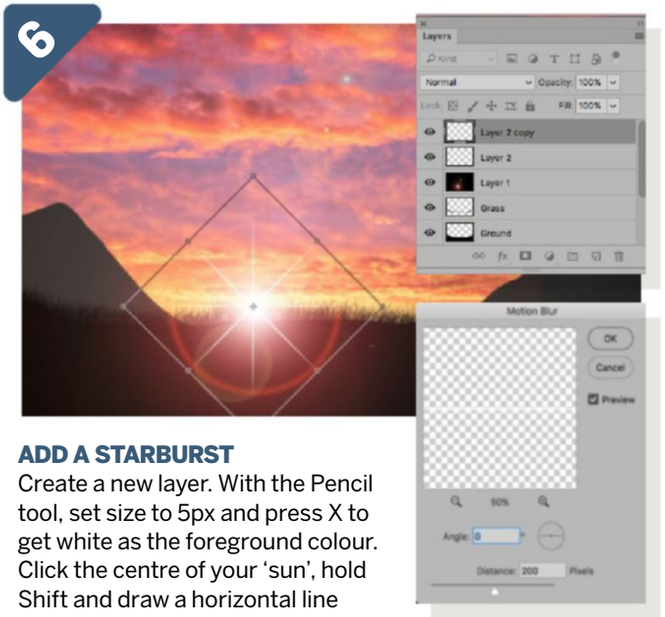
5



### MAKE A NEW SUN

To add a powerful light source to the frame, create a new layer (Ctrl/Cmd+Alt+Shift+N) and drag it to the top of the stack. Press D to reset the foreground to pure black, then press Alt+Backspace to fill the layer with the foreground colour. Change the Blend Mode from Normal to Screen, then go to Filter > Render > Lens Flare. Use the 50-300mm zoom option with a Brightness setting of 100%, and click on the preview screen to place the lens flare so it will appear roughly on the horizon. Click OK. If you need to adjust its placement, press V and drag the sun into position.

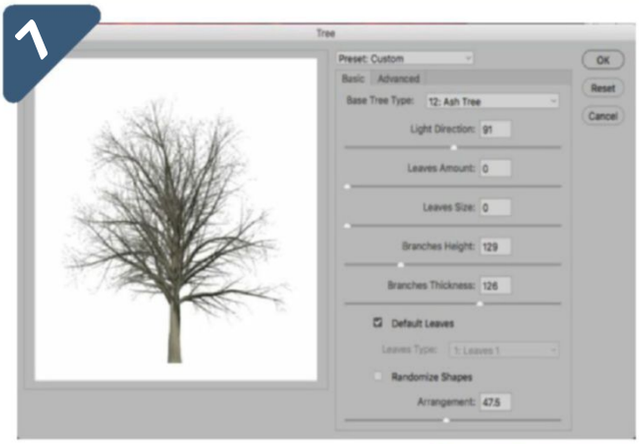
6



### ADD A STARBURST

Create a new layer. With the Pencil tool, set size to 5px and press X to get white as the foreground colour. Click the centre of your 'sun', hold Shift and draw a horizontal line through the middle so it stretches the same distance either side. Go to Filter > Blur > Motion Blur; set Angle to 0 degrees, Distance to 200px and click OK. Press Ctrl/Cmd+J to copy the layer, then Ctrl/Cmd+T. Hold Shift and drag the cursor outside the bounding box to rotate the streak so it's vertical. Press Ctrl/Cmd+E to merge the streaks into a cross, then Ctrl/Cmd+J to copy. Hold Shift and rotate by 45°. Press Ctrl/Cmd+E to give a starburst.

7

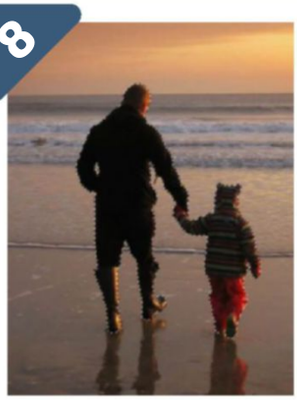


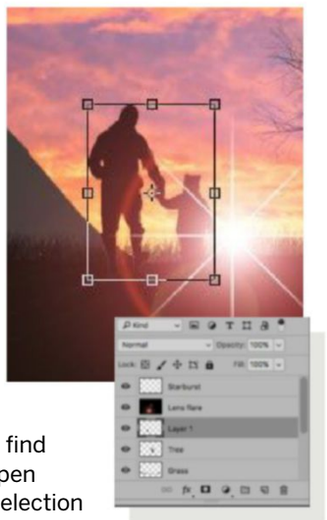

### PLANT YOUR OWN TREE



A tree would add a great focal point to the frame – and Photoshop CC allows you to build one! Create a new layer (Ctrl/Cmd+Alt+Shift+N) and drag it beneath the black flare layer. Go to Filter > Render > Tree. I went for an Ash Tree, and took it back to the bare branches by setting the Leaves Amount to 0. Once you're happy with the look, click OK and it'll appear on the new layer. To turn it into a silhouette, hold Ctrl/Cmd and click on the layer thumbnail to select it. Press D to reset the colours, followed by Alt+Backspace to fill it with black. Press Ctrl/Cmd+D to lose the marching ants.

8





### BRING IN SOME PEOPLE

To add some human interest, find a shot with some figures or open Figures.jpg. Grab the Quick Selection tool and drag it over the figures until they're selected. To remove areas from the selection, hold Alt and drag over the offending parts. Once the figures are surrounded by a 'marching ants' selection, press Alt+Backspace to fill them with black. Press Ctrl/Cmd+C to copy the selected pixels, then Ctrl/Cmd+W to close the image. Back on the main picture, press Ctrl/Cmd+V to paste in the silhouetted people. Select Move and drag them into position. If you need to change the size of your figures, press Ctrl/Cmd+T to enter Free Transform mode, and drag the corner handles before pressing Return.

9

### FINESSE THE IMAGE




To add a final compositional element to the scene, open Birds.jpg (1) and use the Lasso tool to make a rough selection around the flock of birds (2). Press Ctrl/Cmd+C to copy the selection, then Ctrl/Cmd+W to close the image. Back on the main pic, press Ctrl/Cmd+V to paste in the birds. Now change the Blend Mode to Multiply (3), then press Ctrl/Cmd+M to open Curves and push the line up until the birds' background disappears. Click OK, then use the Eraser tool with a soft-edged brush to remove any hard edge that remains on the birds layer. Press Ctrl/Cmd+T to enter Free Transform mode, and pull the handles to adjust the birds' size to suit. With all your components in place, take a little time to evaluate the scene, and use the Move tool to nudge the various layers into the perfect position. Finally, go to File > Save As, and use the Photoshop (PSD) format. This will preserve all the layers, so you can return and adjust any element of your silhouette whenever you like.

# ENHANCE A NIGHT-TIME PHOTOGRAPH WITH LIGHTROOM



**SEAN McCORMACK**

*Photographer and writer*

Sean McCormack is a photographer and writer based in Galway in the west of Ireland. He's the author of *The Indispensable Guide to Lightroom CC*. **seanmcfoto.com**

Lightroom

*Read on to discover all sorts of handy Lightroom tips and tricks that will really make your night-time landscape shots pop*

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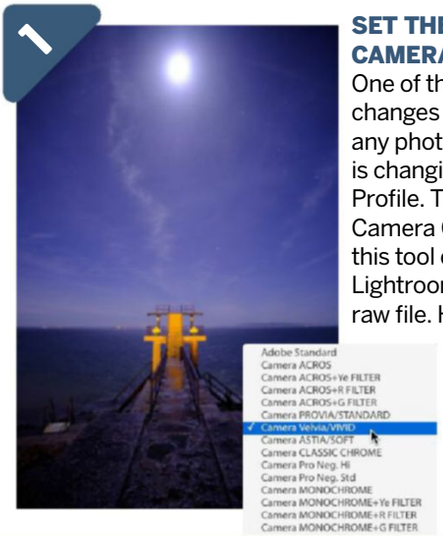



**WHILE the days are finally getting longer, there are still more dark hours than light hours at this time of year.** That's no excuse to stay in, though: there are plenty of photo opportunities.

If there's no moon out, you can shoot the stars, but with a good moon, you can shoot cool night-time scenes. There are a few things that are different to daytime landscapes, but you still need to emphasise the good and hide the bad!

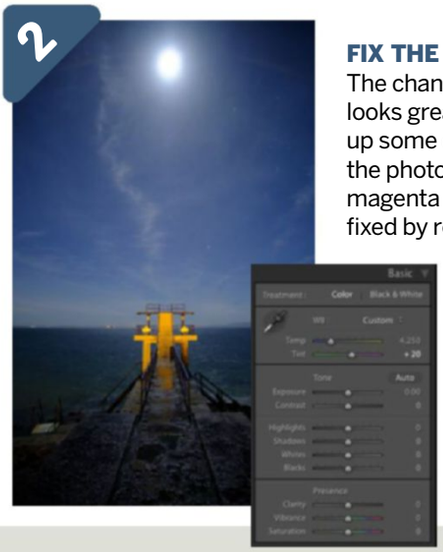
This night scene was the winter moon over a local diving tower. In post-production, I wanted to highlight the yellow tower against the dark blue sky.

## 1 SET THE CAMERA PROFILE



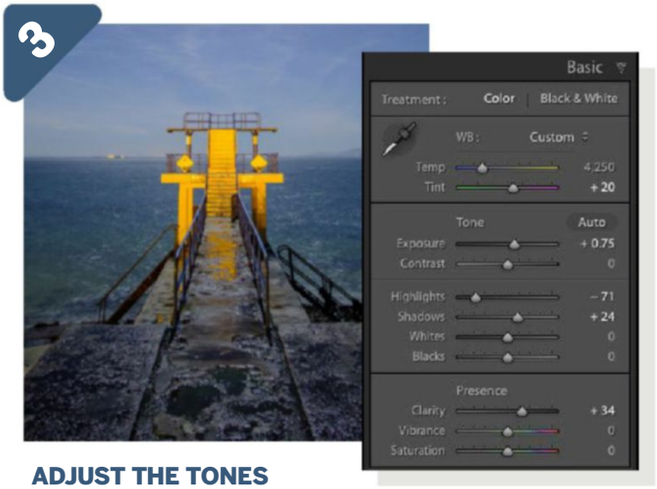

One of the most impactful changes you can make to any photo in Lightroom is changing the Camera Profile. Tucked away in the Camera Calibration panel, this tool changes the way Lightroom renders your raw file. Here, I chose the Velvia/Vivid profile. You should have a Vivid or Landscape option available.

## 2 FIX THE COLOUR CAST



The change of profile looks great, but it shows up some of the issues in the photo. First is the magenta cast. This can be fixed by reducing the Tint slider in the Temperature section in the Basic panel. I've dropped it from 51 to 20.

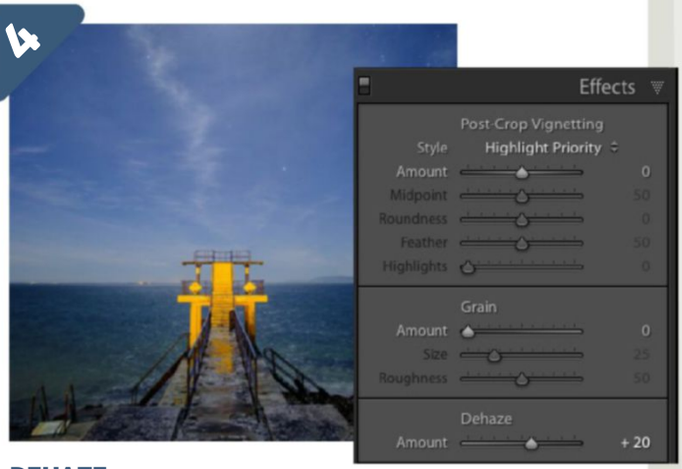
3




### ADJUST THE TONES

The image is a little dark, so an increase of Exposure to 0.75 helps. To pull back the moon a little, I set Highlights down to -71. To aid the foreground, I've opened up Shadows to 24. The final step in the Basic panel for now is to set Clarity to 34, which renders the sky better.

4




### DEHAZE

One of the coolest features for Lightroom CC users is the Dehaze slider in the Effects panel. Normally used for images with poor atmospheric conditions, it's also a miracle provider for general landscapes. Setting it to 20 increases apparent contrast and saturation.

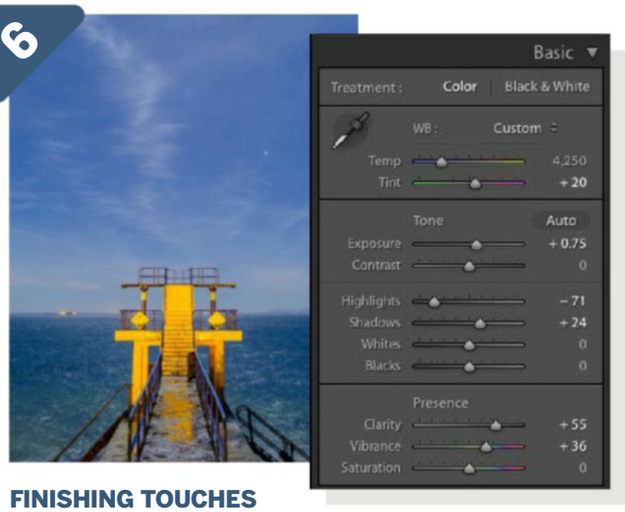
5




### FIX THE LENS PROFILE

The edges of the image are quite dark, due to vignetting caused by lens fall-off. To fix this, turn on Profile Corrections in the Lens Correction panel. Even though Lightroom thinks it has a profile, it's not the correct one, so I have to manually select it. I also brought the distortion correction back slightly and applied Auto in the Transform panel.

6




### FINISHING TOUCHES

With all the changes made, it's time to go back to Basic and tweak. Setting Vibrance to +36 boosts the colour in the photo, while increasing Clarity to +55 adds more punch to the sky and emphasises the stars more.



## Radial vignette

EXPERT TIP

Use the balance of light and dark to direct the viewer's eye

The key part of this image is the diving board, as an 'arrow' pointing to the moon. A good way to highlight this feature is to make it brighter than the surrounding area. In this case the feature is bright already, so you need to darken the surrounding area instead. Set the zoom level to 1:16 in the Navigator panel. From the Toolstrip, select Radial Filter and drag a long ellipse out from the centre of the image up. Double-click the Effect label to reset any settings. Check that Invert Mask is off, so the effect happens outside the filter. Bring the Exposure down to darken the edges. For this image, about 1/3 of a stop is enough. Adjust Feather to make a smooth transition.



**JAMES PATERSON**

*Editor, Practical Photoshop*

With a decade as a working writer and photographer behind him, James knows exactly which Photoshop and Lightroom tools and techniques matter the most to you.

# CREATE EFFECTS FROM SCRATCH WITH RENDER FILTERS

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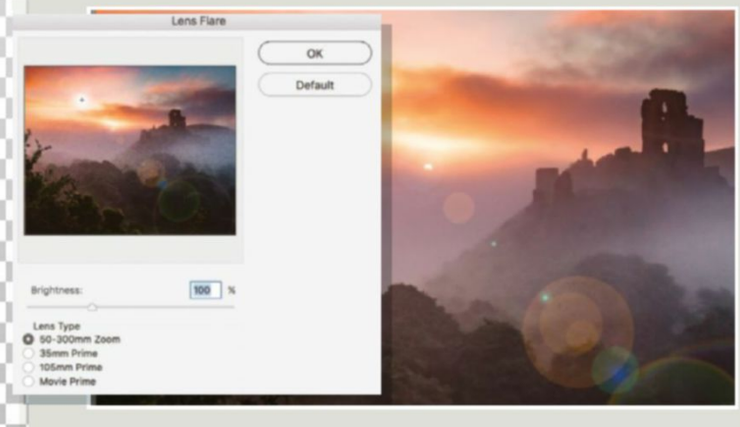
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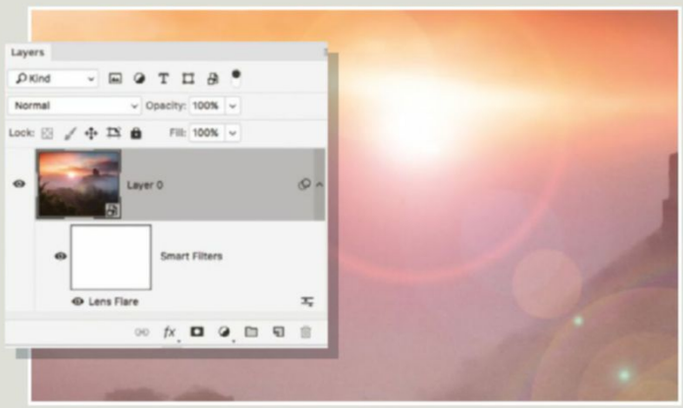
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## STEP BY STEP
## RENDER A LENS FLARE

Here's the best way to use the Flare filter in Photoshop for atmospheric optical effects




### 1 ADD THE FLARE

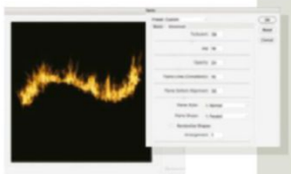
Open your image, then right-click the layer and choose Convert to Smart Object. Next go to Filter > Render > Lens Flare. Experiment with different positions for the flare and try the lens types listed in the dialog box. The 50-300mm Zoom often gives the most natural results. Click OK to apply.

### 2 FINE-TUNE THE POSITION

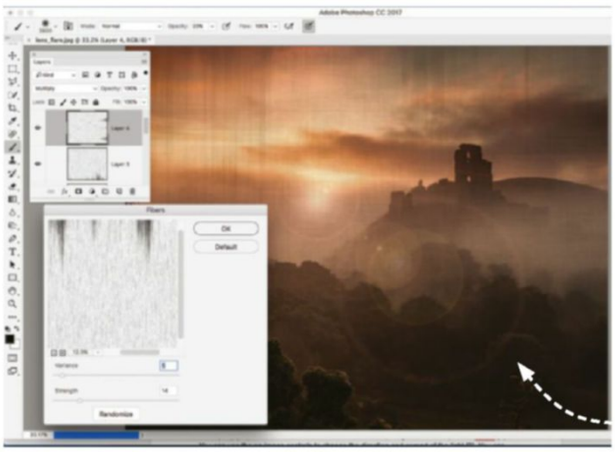
If you need to reposition the flare, go to the Layers Panel (Window > Layers) and double-click the Lens Flare smart filter. You can also fade it by double-clicking the white mask thumbnail in the Layers panel to bring up the mask properties. Click Invert and use Density to control the strength.

## PHOTOSHOP ANATOMY

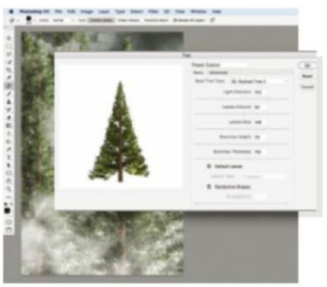
### FLAMES
Before using Render > Flames, you need to first grab the Pen tool from the Tools panel and draw a path by click-dragging points along the line you'd like the flame to follow. Once that's done, make a new layer and go to the filter. Experiment with the preset flame types like candle or multiple flames, and use the Advanced tab to change the characteristics of the fire shapes until you get the result you want.



### FIBERS
The Fibers Filter (Filter > Render > Fibers) can be used to give an image a distressed look. Make a new layer and press D to reset the colours, then apply the filter with a low Variance. Click Randomise until you get a good result. Now make another layer, go to Edit > Transform > Rotate 90 Clockwise and apply Fibers again. Lastly, set the Blend Mode of both layers to Multiply.

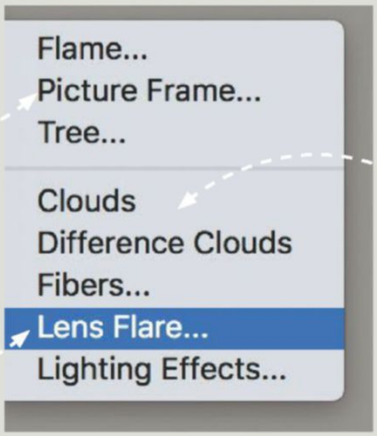


### TREES
This lets you create 34 types of tree from scratch; you can also change things like the number of branches and coverage of leaves. It's a useful feature for architects and designers who want to mock up an exterior scene – or even for creating a forest from scratch like this, which was made by combining rendered trees and a cloud brush (downloaded from the Creative Cloud app).



### PICTURE FRAMES
The Picture Frame command (Filter > Render > Picture Frame) lets you add a variety of borders around your images. You can adjust the thickness, colour and style of the border. Most of the presets are rather tacky, but you might find a use for some of the more simple designs.

### LENS FLARE
This filter lets you add flare, as if you were shooting into a bright light or the sun. Apply it to a non-destructive Smart Object layer (see opposite). Alternatively, if you want to add it to a multi-layered document, first you need to make a new layer, fill it with black and set the Blend Mode to Screen, then go to Filter > Render > Lens Flare.




### CLOUDS
The Clouds filter is the most useful of the Render Filters. You can use it on a layer mask to make an effect appear more random, especially if you blur the clouds afterwards with Filter > Gaussian Blur. It also comes in handy for making a simple, mottled backdrop; blur the effect, then add a vignette.

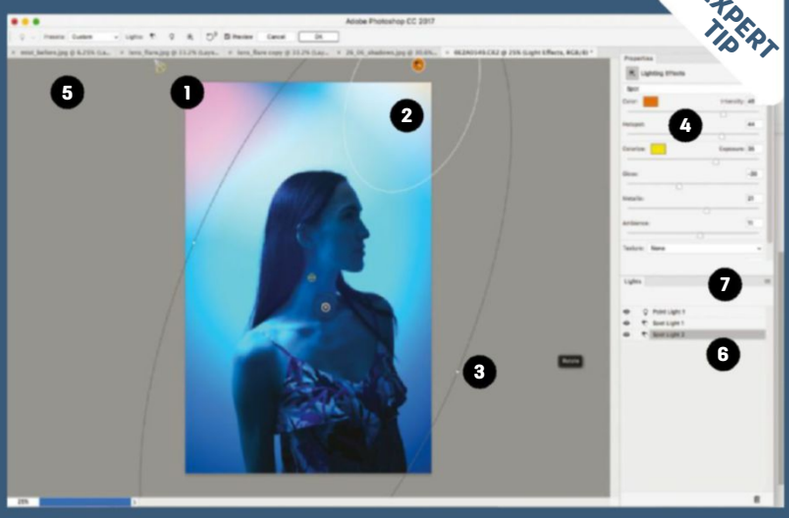
## Lighting Effects

Transform your image with added lights

EXPERT TIP

The Lighting Effects command is a full-blown lighting system that lets you alter the mood of your image. You can choose to add three different kinds of light: Point, Omni and Spot **[1]**. Spot is the most fun: it behaves like a real spotlight with a hotspot and fall-off **[2]**. You can use the on-image controls to change the direction and spread of the light **[3]**. You can also alter the colours of both the overall light and the hotspot area **[4]**.

With so many controls, a useful starting point is the Preset dropdown **[5]** – we added Blue Omni here. You can then go on to build up more than one light by using the three light buttons [1]. Each appears in the light list **[6]**. The dropdown here **[7]** has more advanced features that prove useful for lighting 3D shapes in Photoshop.





**JAMES ABBOTT**

*Photographer and journalist*

James is a professional photographer and journalist. He's an advanced Photoshop user and has created hundreds of tutorials to help others improve their skills.
**jamesaphoto.co.uk**

# CREATE SURREAL IMAGES WITH LAYER MASKS

Photoshop

*Find out how Layer Masks enable you to blend two distinct objects together so that you can turn the impossible into reality*

**SOFTWARE** Photoshop CC **GET IT FROM** www.adobe.com

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**PHOTO manipulation has been around almost since the dawn of photography.** Even in the early days photographers would blend multiple exposures in the darkroom to maintain sky detail in landscapes. Later, master printers created believable montages using as many negatives they needed to create their art.

Surreal, manipulated photography has been around for a long time, but we can all enjoy the rewards reaped by master darkroom printers, thanks to Photoshop. And don't be misled into thinking that Photoshop is a cop-out. The advantage of Photoshop is that it speeds up the process of trial and error, and means that you don't need a darkroom – something of a luxury even in its heyday.

We're going to use simple and powerful tools in the shape of Layer Masks to seamlessly blend two completely unrelated objects together in space and time, in a way that's totally believable. Best of all, it's easier than you may think.

1



### COPY AND PASTE IMAGES

Open the two images in Photoshop, and click on the candle shot to make it visible and active. Now press Ctrl+A (or Cmd+A in macOS) to select the whole image, then Ctrl/Cmd+C to copy it. Now click on the hand image to make it visible, then press Ctrl/Cmd+V to paste in the candle image as a layer. Set the Opacity of the candle layer to 50% so it's ready for the next step.

2



### TRANSFORM THE CANDLE

Press Ctrl/Cmd+T to open the Transform bounding box around the candle layer so you can resize it. Hover the mouse pointer over the centre of the layer and drag so the candle sits above the forefinger. Drag the edges of the bounding box so the candle is slightly wider than the finger. When you're happy, press the Return key to confirm.

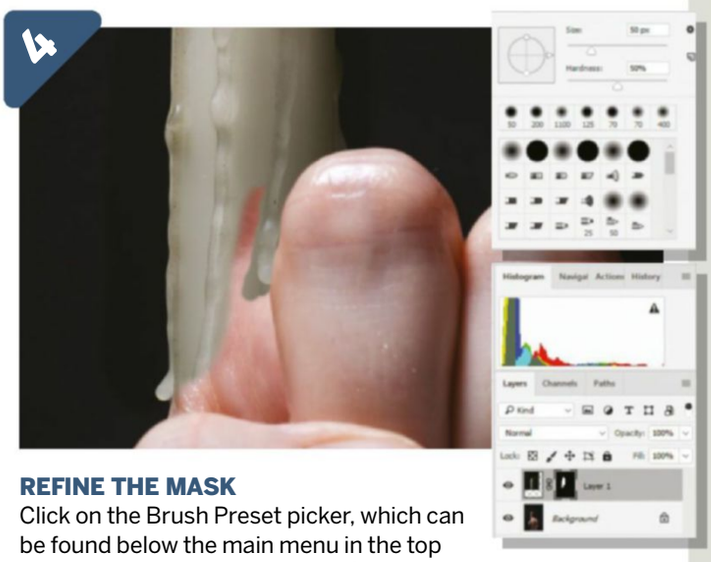
3



### APPLY A MASK

Set the layer Opacity to 100% and click on the Layer Mask icon at the bottom of the Layers panel. Now press Shift+F5 to open the Fill dialog box and set Contents to Black. Press D to reset the foreground and background colours to black and white, then X to make white the foreground colour. Press B to select the Brush tool and roughly paint the candle back in.

4



### REFINE THE MASK

Click on the Brush Preset picker, which can be found below the main menu in the top left of the Photoshop interface. Set Brush Size to 50px and Hardness to 50%. Zoom into the image and carefully reveal any fingers or other parts of the hand layer that were hidden in the previous step. Take a look at the panel below for advice on fixing mistakes.

## Fix masking mistakes

A non-destructive way of blending and editing different images together

When you're trying to achieve the perfect blend between two or more layers, it's inevitable that you're going to make the odd mistake. Brush opacity can be one problem, and if you're working with sharp subject edges, you may need to keep fixing blending errors before the result looks perfect.

Two ways to resolve an issue are to use Ctrl/Cmd+Z to go back one step, or the History panel to go back further. Alternatively, you can set the brush to the opposite tone – white if you're using black, and vice versa. You can then paint over the area where the mistake has occurred to fix it.



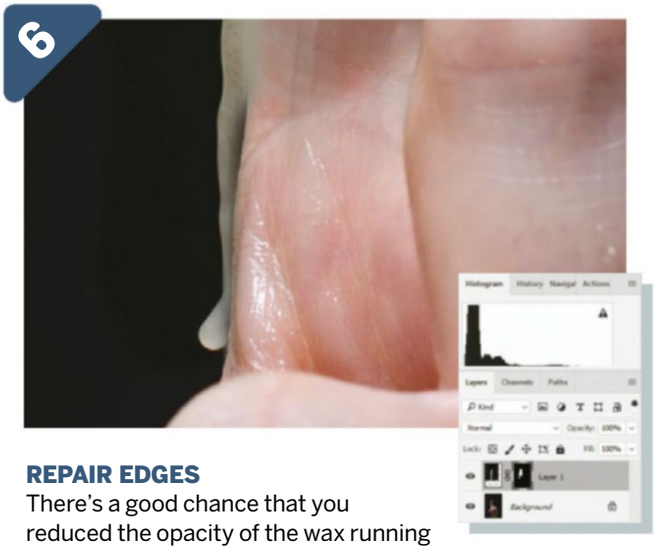
5



### CREATE THE BLEND

Click on the Brush Preset picker and set Brush Size to 200px and Hardness to 0%. Be prepared to use the right and left square bracket keys to change the brush size as required. Set the brush Opacity to 10% and brush along the edge of the finger twice, with black as the foreground colour. Tap the mouse over the bottom edge of the wax to create a graduation.

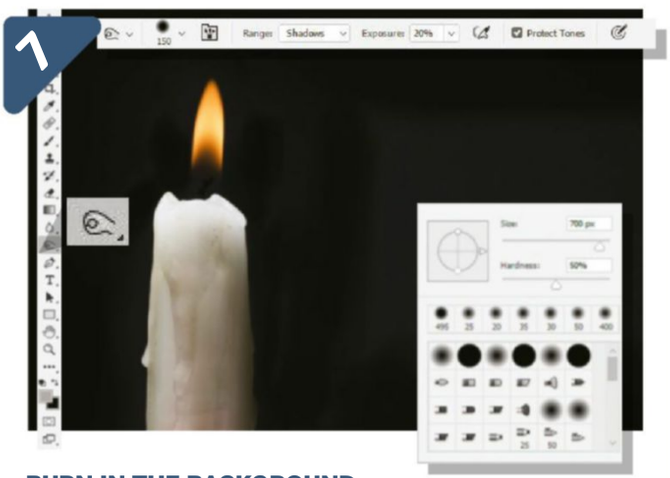
6



### REPAIR EDGES

There's a good chance that you reduced the opacity of the wax running down the edges of the finger in the last step. So press the left square bracket key a few times to make the brush small enough to overlap the edge of the wax and the very edge of the finger. Press X to use white and paint along the edge of the wax.

7



### BURN IN THE BACKGROUND

Merge all visible layers into a new layer by pressing Ctrl/Cmd+Shift+Alt+E. Next, press O and make sure the Burn tool is selected. Set Range to Shadows and Exposure to 20%. Now use the Brush Preset picker to set Size to 700px and Hardness to 50%. Paint over the black background to make it uniformly black so it matches the black halo around the candle.

8



### DESATURATE THE IMAGE

This step is optional: you could leave the image as full-colour; desaturate it, as in this step; or convert it to black and white. Click the Create New Fill Or Adjustment Layer icon at the bottom of the Layers panel, and select Black & White from the list of options. Now simply set the Opacity of this Adjustment Layer to 50-60% in order to desaturate.




## Get rid of wax spots

Perfect your surreal image by cloning out spots of burnt wax

We came to a good finishing point at step 8. However, burning white candles can leave black specks in the melted wax, so these can optionally cloned out using the Healing Brush tool. To do this, create an empty new layer and drag it below the Black & White layer. Select the Healing Brush tool, zoom into the candle and sample an area of clean wax by holding down Alt and clicking on it. Now click over the speck, and repeat until most of the specks are gone.

EXPERT TIP

# NEXT ISSUE

DON'T MISS OUR NEXT PHOTOGRAPHY EXTRAVAGANZA!




**DIGITAL CAMERA AWARDS 2017**

We reveal our favourite gear of the year, from best camera through to best tripod

# PORTRAIT SPECIAL

- Master the art of portraiture with our expert guide to the genre

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## ON SALE Friday 24th March



**JAMES PATERSON**

*Editor, Practical Photoshop*

With a decade as a working writer and photographer behind him, James knows which Photoshop and Lightroom tools and techniques matter the most to you.

# GET CREATIVE WITH CUT-OUTS

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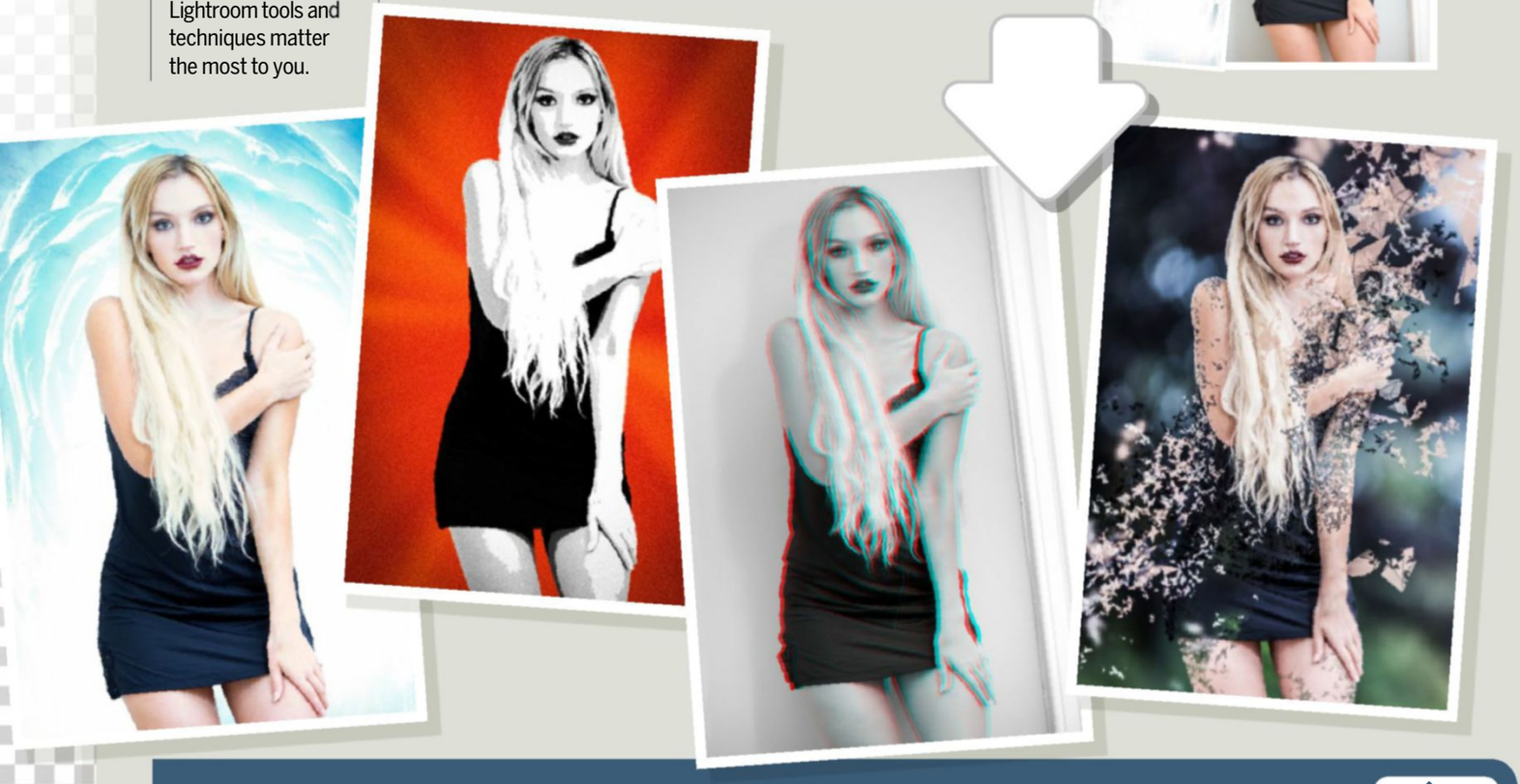
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Photoshop

*Learn how to cut out your subject and add amazing effects with these four very simple techniques*

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## Cut out a person

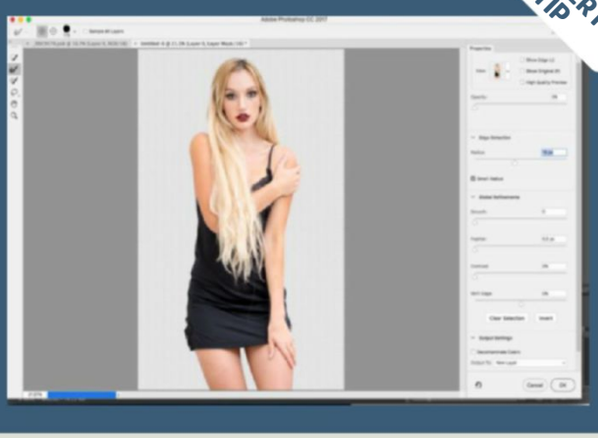
### Select and mask your subject for a precise incision

EXPERT TIP

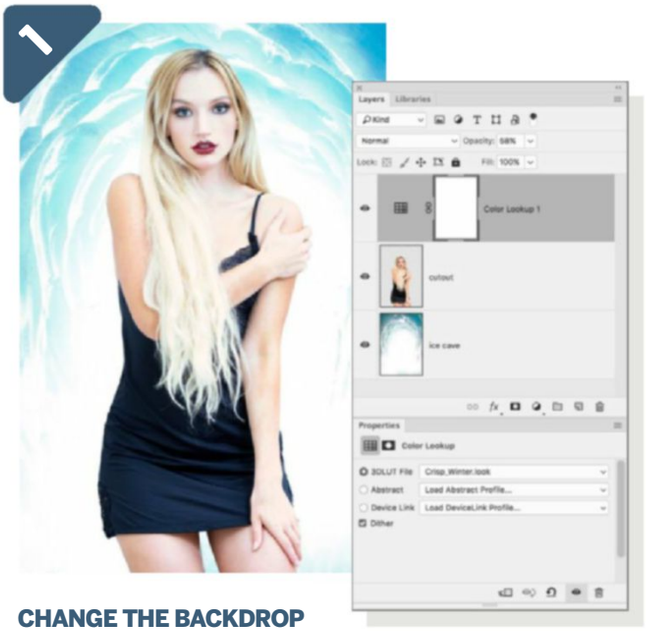
All cut-outs begin with a selection. While there are several tools for the job, the Quick Selection tool is often the easiest and best. With this tool active, paint over the subject, then hold Alt and paint in any areas where it latches onto background detail. Continue in this way until you have a decent selection.

Next, you need to click the Select And Mask button (or Refine Edge in older versions of Photoshop). The Radius controls are key here; increase the Radius to expand the area of refinement along the edge of the selection.

Once that's done, choose an Output setting – either Layer Mask or New Layer depending on what you want to do next – then click OK. Now you're ready to try out these four tricks...



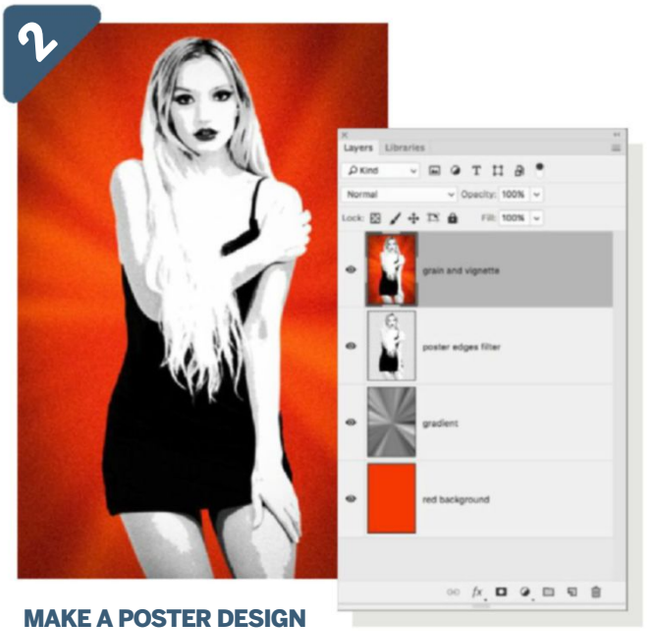
1



## CHANGE THE BACKDROP

Cut out the subject (see the box on the opposite page) and you can drop in any background you like. Here we've transported our subject to a wintery ice cave. Simply drag in the new backdrop with the Move tool and move the layer underneath the cut-out layer, then press Ctrl/Cmd+T and use the bounding box to resize or rotate the backdrop into position. To finish off, add an Adjustment Layer like a Photo Filter or Color Lookup to tweak the overall tones.

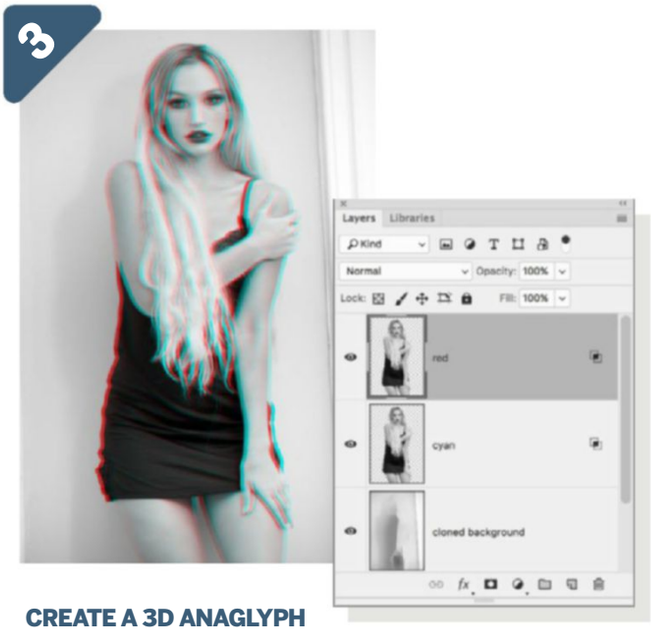
2



## MAKE A POSTER DESIGN

Cut out and desaturate the subject, then go to Filter > Filter Gallery > Artistic and apply Poster Edges. Next fill a layer with red and drag below the cut-out. Make a new layer and grab the Gradient tool. Set the Angle Gradient style, open the Gradient Editor and choose Type: Noise. Drag out from the centre, then desaturate, blur and set the Blend Mode to Overlay. Finally, apply grain and vignette effects with the FX tab in Filter > Camera Raw Filter.

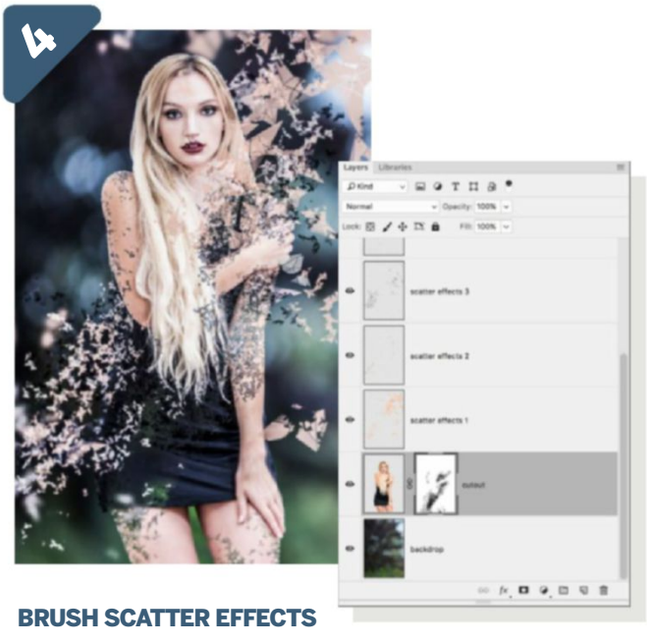
3



## CREATE A 3D ANAGLYPH

Convert to black and white, then select the subject and make two copies. Double-click one cut-out layer and untick the R channel box. Double-click the other one and untick the G and B channels. With the Move tool, nudge the red layer to the left and the cyan layer to the right. Finally, highlight the background layer and clone around the edges to fill in background detail 'behind' the subject. Grab some red/blue 3D glasses and see how it looks!

4



## BRUSH SCATTER EFFECTS

Cut out the subject to a new layer, then drop in a dark backdrop. Add a layer mask to the cut-out layer. Grab the Brush tool and set its colour to black. Open the Creative Cloud app and search for 'geometric scatter brush', then download a set to your libraries. Grab the brush and paint on the mask to hide scattered areas. Next, make new layers, Alt-click to sample colours, then paint to add scattered bits and pieces around the frame.

# wex photographic

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| EF 100mm f2.8 L IS USM Macro | £869 |
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| EF-S 60mm f2.8 USM Macro | £419 |
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D750



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### Nikon Lenses

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| 40mm f2.8 G AF-S DX Micro | £239 |
| 50mm f1.4 G AF-S | £385 |
| 50mm f1.8 G AF-S | £189 |
| 85mm f1.8 G AF-S | £430 |
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| 28-300mm f3.5-5.6 G AF-S ED VR | £829 |
| 55-200mm f4-5.6 G ED VR II DX AF-S | £239 |
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OLYMPUS

PEN-F



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|---|---|
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| **OM-D E-M5 II** +12-40mm | £849 |
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**OM-D E-M1 II** Body **£1849**

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| NEW **OM-D E-M1 II** Body | £1849 |
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**Olympus Lenses**

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|---|---|
| 75mm f1.8 | £699 |
| 12-40mm f2.8 Pro | £849 |
| 40-150mm f2.8 Pro | £1199 |
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|---|---|
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| NEW **X-Pro2** Body | £1349 |
| NEW **X-E2S** Body | £549 |
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| **X-T1** | from £795 |
| **X-T20** | from £799 |

SONY

A7R Mark II

*Black*



42.0 mp · 5.0 fps · 4K video

**A7R Mark II** Body **£2999**

| | |
|---|---|
| **A7R Mk II** Body | £2999 |
| **A7S II** Body | £2899 |
| **A7 II** | £1249 |
| **A7** | £799 |
| **A7** + 28-70mm | £999 |
| **A7S** Body | £1699 |
| **A7R** Body | £999 |

A6500

*Black or Silver*



24.0 mp · 11.0 fps · 1080p

**A6500** From **£1499**

| | |
|---|---|
| **A6500** Body | £1499 |
| **A6500** + 16-70mm | £2499 |
| **A6300** Body | £849 |
| **A6300** + 16-50mm | £1097 |

Panasonic

GX8

New



20.3 mp · 10.0 fps · 4K video

**DMC-GX8** **£799**

| | |
|---|---|
| NEW **GX8** + 12-60mm | £799 |
| **GX80** Body | £447 |

**Panasonic Lenses**

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| 12-35mm f2.8 | £699 |
| 45-175mm f4.0-5.6 | £299 |
| 25mm f1.7 | £148 |
| 45m-150mm f4-5.6 | £179 |
| 35-100mm f2.8 | £799 |




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|---|---|
| IXUS 275 | £104 |
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| PowerShot G1 X MK II | £499 |
| PowerShot SX60 HS | £349 |
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### Nikon




DL24-500 **£749**




DL18-50 **£679**



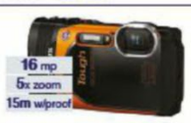

DL24-85 **£549**

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|---|---|
| Coolpix P900 | £479 |
| Coolpix B700 | £369 |
| Coolpix B500 | £239 |
| Coolpix A900 | £369 |
| Coolpix A300 | £139 |
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Stylus TG-860 **£179**

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|---|---|
| FinePix S9800 | £169 |
| FinePix XP90 *Blue* | £128 |
| XQ2 | £180 |
| X70 | £499 |

### SONY




Cyber-Shot HX90V **£339**

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|---|---|
| Cyber-Shot HX60 | £168.97 |
| Cyber-shot WX500 | £269 |
| Cyber-Shot RX100 III | £599 |
| Cyber-Shot RX100 IV | £729 |
| Cyber-Shot RX10 II | £1129 |
| Cyber-Shot RX1R II | £3449 |
| Cyber-Shot RX100 II | £439 |
| Cyber-Shot RX100 | £349 |

### Panasonic




Lumix FZ2000 **£1099**

| | |
|---|---|
| Lumix LX100 | £499 |
| Lumix LX15 | £599 |
| Lumix FZ1000 | £589 |
| Lumix TZ70 | £271.84 |
| Lumix FZ330 | £449 |
| Lumix CM1 | £379 |
| Lumix TZ100 | £549 |
| Lumix TZ80 | £329 |

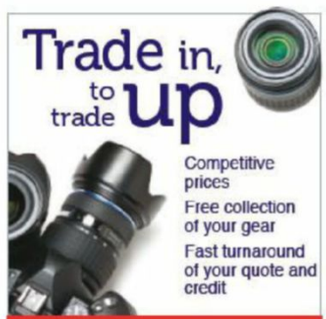
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| 32GB | £49.99 |

**Professional 600x UHS-1: 90MB/s**

| | |
|---|---|
| 16GB | £14 |
| 32GB | £20 |
| 64GB | £38 |
| 128GB | £69 |

### Canon




| | |
|---|---|
| PIXMA Pro 100S | £375 |
| PIXMA Pro 10S | £529 |
| PIXMA Pro 1 | £599 |

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### Lowepro



**Pro Runner BP 350 AW II capacity:**
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- 4-5 additional lenses
- Flashgun, tripod, laptop & accessories



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- 2 lenses
- 2 Ltr reservoir (not included)
- Flashgun & accessories

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| BP 450 AW II | £169 |

**Photo Sport BP:**

| | |
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| 200 AW | £99 |
| 300 AW | £129 |

### tamrac



**Anvil Slim 11 capacity:**
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- 2 lenses
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- Flashgun & accessories

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| F-6 | £89 |
| F-803 | £139 |
| F-2 | £119 |

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| MT055XPRO3 | £199.95 |
| MK055XPRO3 + X-Pro 3-Way Head | £259 |
| MK055XPRO3 + 498RC2 Ball Head | £169 |
| MT055CXPRO3 Carbon Fibre | £269 |
| MT055CXPRO4 Carbon Fibre | £279 |
| MT190XPRO3 | £139 |
| MT190XPRO4 | £159 |



**MT190XPRO3**
- Max Height: 160cm
- Min Height: 9cm

| | |
|---|---|
| MT190CXPRO3 Carbon Fibre | £229 |
| MT190CXPRO4 Carbon Fibre | £235 |
| MT190XPRO3 + 496RC2 Ball Head | £139 |
| MT190XPRO4 + 496RC2 Ball Head | £189 |




**Manfrotto Heads:**

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| 494RC2 Mini Ball | £48.95 |
| 498RC2 Mini Ball | £74 |
| 324RC2 Joystick | £99 |
| 327RC2 Joystick | £139 |




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| Focus GP-8 | £79 |

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430EX III-RT **£219**

### Nikon



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| 15-45 f3.5/6.3 IS STM | £219 |
| 18-55 f3.5/5.6 IS STM | £199 |
| 18-150 f3.5/6.3 IS STM | £429 |
| 22 f2 STM | £198 |
| 28 f3.5 Macro IS | £289 |
| 55-200 f4.5/6.3 IS STM | £268 |

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| 18-55 F3.5/5.6 IS STM no box | £169 |
| 18-135 F3.5/5.6 IS U Nano | £448 |
| 18-135 F3.5/5.6 IS STM no box | £349 |
| 24 F2.8 STM | £138 |

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| 8-15 F4 L USM Fisheye | £979 |
| 11-24 F4 L USM | £2649 |
| 16-35 F2.8 L USM MKIII | £1997 |
| 16-35 F4 L IS USM | £866 |
| 17-40 F4 L USM | £668 |
| 20 F2.8 USM | £447 |
| 24 F1.4 L II USM | £1478 |
| 24 F2.8 IS USM | £429 |
| 24 F3.5 LII TSE | £1499 |
| 24-70 F2.8 L II USM | £1897 |
| 24-70 F4 L IS USM | £747 |
| 24-105 F4 L IS USM MKII | £1049 |
| 24-105 F3.5/5.6 IS STM | £378 |
| 28 F2.8 IS USM | £387 |
| 35 F1.4 USM LII | £1798 |
| 35 F2 IS USM | £468 |
| 40 F2.8 STM | £189 |
| 50 F1.2 L USM | £1249 |
| 50 F1.4 USM | £328 |
| 50 F1.8 STM | £108 |
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| 70-200 F2.8 non IS L USM | £1097 |
| 70-200 F4 L IS USM | £1018 |
| 70-200 F4 L USM | £648 |
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| 100 F2.8 Macro USM | £448 |
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| 200-400 F4 IS L USM | £9699 |
| 200 F2.8 II L USM | £649 |
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| 600EX-RT II Speedlight | £538 |
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| BG-E14 (fit 80D) | £178 |
| BG-E13 (fit 6D) | £147 |

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Full Frame



Body only price **£4797**

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Full Frame



Body only **£1597**

Plus 24-120 f4 VR ~~£2297~~

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Full Frame



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APS-C



Body only price **£1728**

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APS-C



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## Nikon D3400

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| D7200 + 18-105 VR | £1087 |
| D5500 Body only | £578 |
| D5500 + 18-55 VRII | £648 |
| D5500 + 18-140 VR | £797 |

### DX NON FULL FRAME LENSES

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| 10.5 F2.8 DX Fisheye | £599 |
| 10-24 F3.5/4.5 AFS G | £729 |
| 16-80 F2.8/4 AFS ED VR | £858 |
| 16-85 F3.5/5.6 AFS VR | £568 |
| 18-105 F3.5/5.6 AFS G no box | £239 |
| 18-140 F3.5/5.6 AFS VR | £458 |
| 18-300 F3.5/6.3 AFS VR | £628 |
| 35 F1.8 AFS G | £178 |

### FX FULL FRAME LENSES

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|---|---|
| 14-24 F2.8 AFS G ED | £1638 |
| 16-35 F4 AFS VR | £1018 |
| 18-35 F3.5/4.5 AFS G | £618 |
| 20 F1.8 AFS G ED | £647 |
| 24 F1.8 AFS G ED | £628 |
| 24-70 F2.8 AFS G ED VR | £1598 |
| 24-120 F4 AFS G ED VR | £897 |
| 35 F1.8 AFS G | £438 |
| 50 F1.4 AFS G | £377 |
| 50 F1.8 AFS G | £188 |
| 70-200 F2.8 AFS VRII | £1898 |
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| 18-300 F3.5/6.3 DC mac OS | £335 |
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| 24 F1.4 DG HSM Art | £598 |
| 24-35 F2 DG HSM Art | £698 |
| 24-70 F2.8 EX DG | £548 |
| 35 F1.4 DG HSM Art | £598 |
| 50 F1.4 EX DG HSM Art | £569 |
| 50-100 F1.8 DC HSM Art | £828 |
| 50-500 F4.5/6.3 DG OS | £848 |
| 70-200 F2.8 EX DG OS | £728 |
| 70-300 F4.5/5.6 Mac DG | £99 |
| 70-300 F4.5/5.6 APO Mac DG | £149 |
| 85 F1.4 DG Art | £1189 |
| 105 F2.8 EX DG OS HSM | £318 |
| 150 F2.8 EX DG OS | £647 |
| 150-600 F5/6.3 OS Cont | £697 |



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|---|---|
| 150-600 F5/6.3 OS Sport | £1197 |
| 500 F4 DG OS HSM Sport | £4997 |
| 500 F4.5 EX APO DG HSM | £3499 |
| TC1401 converter | £228 |
| TC2001 converter | £269 |
| USB Lens dock | £39.99 |

**LOTS OF SIGMA LENSES AVAILABLE IN SONY & PENTAX AF FITS**

## TAMRON

| | |
|---|---|
| 16-300 f3.5/6.3 Di II VC PZD | £388 |
| 18-200 F3.5/6.3 Di II VC | £189 |
| 70-300 F4/5.6 Di VC USD | £289 |
| 70-300 F4/5.6 Di AF | £129 |
| 150-600 F5/6.3 VC USD G2 | £1349 |
| 150-600 F5/6.3 SP VC USD | £728 |

**Kenko Converters**

| | |
|---|---|
| 1.4x Pro 300 converter | £159 |
| 2x Pro 300 converter | £159 |
| Auto ext tube set | £109.99 |

**WE STOCK COKIN P, X AND Z SERIES KITS. PLEASE SEE WEBSITE FOR FULL DETAILS.**

## FUJIFILM X SYSTEM



**X-T2 Body Black £1398 Plus 18-55 £1647**



**X-Pro2 Body only £1299**

| | |
|---|---|
| X-Pro2 body | £1299 |
| X-T2 + 18-55mm | £1647 |
| X-T2 body Graphite | £1649 |
| X-T2 body | £1398 |
| X-T20 + 18-55mm | £1049 |
| X-T20 body | £799 |
| X-T10 + 18-55mm | £798 |
| X-T10 body Blk/silv | £485 |
| X-A10 + 16-50mm | £499 |
| X100f compact camera | £1249 |
| **X System Lenses** | |
| 10-24mm F4 XF | £766 |
| 14mm F2.8 XF R | £788 |
| 16mm F1.4 XF | £797 |
| 16-55mm F2.8 | £898 |
| 18mm F2 XF | £449 |
| 18-55mm F2.8/4 OIS | £618 |
| 18-135mm F3.5/5.6 XF | £649 |
| 23mm F1.4 XF | £788 |
| 23mm F2 XF R WR | £418 |
| 27mm F2.8 XF | £328 |
| 35mm F1.4 XF | £448 |
| 35mm F2 R WR | £347 |
| 50mm F2 R WR | £449 |
| 50-140mm F2.8 R OIS | £1328 |
| 50-230mm F4.5/6.7 XC OIS | £247 |
| 55-200mm F3.5/4.8 OIS XF | £597 |
| 56mm F1.2 R APD | £1158 |
| 56mm F1.2 XF | £797 |
| 60mm F2.4 XF | £578 |
| 90mm F2 R LM WR | £797 |
| 100-400 F4/5.6 OIS WR | £1439 |
| 1.4x XF TC WR | £299 |
| 2x XF TC WR | £347 |
| 11mm or 16mm Ext tube ea | £64 |
| **X System Grips & Flashguns** | |
| VPB-XT2 Vertical grip | £268 |
| VPB-XT1 Vertical grip | £119 |
| EF-20 TTL Flashgun | £98 |
| EF-42 TTL Flashgun | £168 |
| EF-X20 TTL Flashgun | £168 |
| EF-500 TTL Flashgun | £449 |

**GFX50 Medium Format System**



**For body & lens prices please see website**

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**Website altered daily inc. manufacturers cashback & promotions**

# www.mifsuds.com

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## QUALITY USED EQUIPMENT. See website for full list. Call us to check condition. 6 Month warranty on most secondhand.


## CANON USED

*Buy with confidence - all of our used equipment is thoroughly tested and cleaned before being offered for sale*

**Used Canon**
EOS 1DX body box
£2299/2799



**Used Canon**
EOS 5D MKIII body box
£1399/1699



**CANON DIGITAL A F USED**
1DX MKII body £4299
1DX body box £2299/2799
1D MKIV b/o serviced £1499
1D MKIV body £999
1D MKIII body £699
1Ds body £299
7D MKII body box £999
7D body £499
5D MKIV body Mint box £3097
5D MKIII b/o box £1399/1699
5D MKII body £799
5D MKI body box £499
70D body box £549
60D body £399
50D body £299
30D body £129
20D body £99
EVF-DC1 for G3X £149
BG-E2 £39 BG-E2N £49
BG-E4 box £69 BG-E5 £49
BG-E6 £79
BG-E7 £79
BG-E8 £69
BG-E11 £169
BG-E13 £119
BG-E16 box £149

**CANON AF FILM BODIES USED**
EOS 3 body M- box £299
EOS 1n HS body £199
EOS 30/5 body each £69
EOS 650 body £39
EOS 600 body £39
EOS 50E body £29
EOS 500N body £29
EOS 1000 body £29
PB-E2 drive M- box £199
PB-E2 drive fits EOS1/3 £149

**CANON AF LENSES USED**
10-22 F3.5/4.5 U £279
16-35 F2.8 USM LII £899
16-35 F2.8 USM LII £699
17 F4 L TSE M- box £1199
17-40 F4 L £449
17-55 F2.8 EFS IS USM £399
17-85 F4/5.6 £199
18-135 F3.5/5.6 IS USM £349
24 F3.5 TSE MKI box £699
24-70 F2.8 L USM box £799
24-85 F3.5/4.5 USM £149
24-105 F4 L £549
28 F2.8 £129
28-80 F3.5/5.6 £79
28-90 F3.5/5.6 £79
28-135 F3.5/5.6 IS USM £169
40 F2.8 STM £139
50 F1.2 L USM box £999
50 F1.4 USM £239
50 F2.5 macro £149
55-250 F4/5.6 EFS £139
60 F2.8 USM EFS mac £249
70-200 F2.8 IS USM LII £999
70-200 F2.8 USM L £799
70-200 F4 U L £399
70-300 F4/5.6 L IS U £699/799
70-300 F4.5/5.6 IS USM £249
75-300 F4/5.6 MKII £99
85 F1.8 M- £269
100 F2.8 IS USM L £599
100 F2.8 USM box £299
100-400 F4.5/5.6 L IS U £899
135 F2 L M- box £499
180 F3.5 L mac £799
300 F2.8 LI IS U £2799
300 F4 L IS USM box £749
400 F4 DO ISII L U £5799
400 F5.6 L box £749
500 F4 LII IS USM £6999
500 F4 LI IS USM £4499
1.4x extender MKII £239
2x extender MKIII £319
2x extender MKII £199
Teleplus 2x DG conv £89
Kenko ext tube set DG £89

**SIGMA CAF USED**
10-20 F3.5 EX DC £269
10-20 F4/5.6 HSM box £219
12-24 F4.5/5.6 EX DG II £449
18-50 F2.8 EX DC £149
18-125 F3.8/5.6 OS DC £149
18-200 F3.5/6.3 HSM OS £179
24-70 F2.8 HSM £469
28-135 F3.8/5.6 £99
50 F2.8 EX macro £149
50-500 F4/6.3 EX DG £399
70-200 F2.8 EX DG £399
120-300 F2.8 DG OS Sport box £1799
120-300 F2.8 EX DG £699
120-400 F4/5.6 DG £399
150 F2.8 EX DG OS mac £499
150-500 F5/6.3 HSM £499
150-600 F5/6.3 DG OS £999
170-500 F5/6.3 APO DG £299
180 F3.5 EX DG HSM mac £399
1.4x EX DG converter £149
Kenko Pro 300 1.4x conv £99
Kenko ext tubes £79

**OTHER CAF USED**
TAM 10-24 F3.5/4.5 Di II £199
TAM 18-270 F3.5/6.3 VCII £169
TAM 28-300 F3.5/5.6 Di VC PZD £449
TAM 28-75 F2.8 XR Di £199
TAM 70-300 F4/5.6 £99
TAM 90 F2.8 £249
TAM 150-600 F5/6.3 USD £599
TAM 200-500 F5/6.3 £449

**CANON FLASH USED**
ST-E3 transmitter box £189
ST-E2 transmitter £79
MR-14EX ringflash £349
430EXII £169
550EX £149
580EX box £179
580EX MKII £299

## NIKON USED

*We carry out sensor cleaning on the premises, firmware updating and equipment hire - please enquire for details*

**Used Nikon**
D4s body box
£3699



**Used Nikon**
D4 body box
£2299



**Used Nikon**
D3X body box
£1799



**NIKON DIGITAL AF USED**
D4s body box £3699
D4 body box £2299
D3X body box £1799
D3s body box £1499/1799
D3 body box £1199
D2xs body £399
D2x body £349
D800 body £1399
D700 body box £699
D600 body box £799
D300 body box £299
D200 body box £149
D7100 body box £499
D7000 body £299/349
D5000 body £199
D90 body £199
D80 body £169
D50 body £79
MBD-15 grip £149
MBD-14 grip £149
MBD-10 grip M- box £129
MBD-10 grip £79
MBD-80 grip £49
MBD-100 grip £39
MBD-200 grip £49

**NIKON AF FILM BODIES USED**
F4S body inc MB-21 £349
F4E body inc MB-23 £299
F65 body £39
F801 body £29/59
F601 body £29

**NIKON AF LENSES USED**
10-24 F3.5/4.5 AFS DX £549
14-24 F2.8 AFS M- box £1099
14-24 F2.8 AFS £999
16 F2.8 Fisheye AFD £499
16-35 F4 VR £749
16-85 F3.5/5.6 AFS VR £399
17-55 F2.8 AFS £449
18-35 F3.5/4.5 AFS £479
18-35 F3.5/4.5 AFD £299
18-55 F3.5/5.6 AFS VR £99
18-105 F3.5/5.6 AFS VR £169
18-135 F3.5/5.6 AFS G £169
18-200 F3.5/5.6 AFS VRI £249
20 F2.8 AFD £329
20 F2.8 AF £279
24-70 F2.8 AFS box £849
24-85 F3.5/4.5 VR £329
24-120 f4 AFS VR £699
24-120 F3.5/5.6 AFD £199
28 F1.8 AFS G £479
28-100 F3.5/5.6 AF G £69
28-300 F3.5/5.6 VR £599
35 F2 AFD £199
35-70 F3.3/4.5 AF £59
40 F2.8 AFS Micro £169
50 F1.4 AFD £199
50 F1.8 AFD £99
55-200 F4/5.6 AFS £79
55-300 F4.5/5.6 VR DX £219
60 F2.8 AFS £399
60 F2.8 AF £199
70-200 F2.8 AFS VRII £1349
70-200 F2.8 AFS VRI £899
70-200 F4 AFS VR £899
70-300 F4/5.6 VR £369
70-300 F4/5.6 AFD £129
85 F1.4 AFS M- box £999
85 F1.4 AFD £499
85 F1.8 AFS £329
85 F1.8 AFD £249
85 F3.5 DX M- box £269
105 F2 AFD £649
105 F2.8 AFS VR £579
105 F2.8 AFD £399
135 F2 AFD box £799
180 F2.8 AFD M- box £449
200 F4 AF £999
200-400 F4 AFS VRII £3799
200-500 F5 AFS VR £999
300 F2.8 AFS VRI £2699
300 F4 AFS box £549
400 F2.8 AFS VR serviced £5799
400 F2.8 AFS non VR £3999
600 F4 AFS VR £6299
600 F4 AFS VR serviced £5799
600 F4 AFS II non VR serviced £4499
TC14EII £299
TC17EII £249
TC20EIII M- box £249
TC20EII £199
TC20E £149

**SIGMA NAF USED**
12-24 F4.5/5.6 EX DG II £449
15 F2.8 EX DG £399
18-200 F3.5/6.3 DC OS £199
24-70 F2.8 EX DG serviced £299
28-200 F3.5/5.6 early £69
30 F1.4 EX DC £199
50 F1.4 Art M- box £499
50-500 F4/6.3 DG £399/499
70-200 F2.8 OS DG £599
70-200 F2.8 EX DG £399
70-300 F4/5.6 APO DG £99
80-400 F4.5/5.6 DG OS £399
105 F2.8 EX £199
120-400 F4/5.6 DG £399
150 F2.8 EX DG OS mac £499
150-500 F5/6.3 DG OS £499
300-800 F5.6 EX DG £2999
2x EX DG converter £149
1.4x or 2x EX conv each £99

**TAMRON NAF USED**
10-24 F3.5/4.5 DIII £239
11-18 F4.5/5.6 £219
18-250 F3.5/6.3 £149
19-35 F3.5/4.5 £99
24-70 F2.8 USD £599
28-300 F3.5/6.3 XR Di £149
60 F2 SP Di £229
70-300 F4/5.6 £79

**OTHER NAF USED**
TOK 10-17 F3.5/4.5 ATX £249
TOK 11-18 F2.8 ATX Pro £329
TOK 12-28 F4 ATX DX £399
TOK 80-200 F2.8 ATX Pro £299

**FLASH / ACCESSORIES USED**
SB-24 £49
SB-25 £49
SB-28 £69
SB-80DX £79
SB-600 £169
SB-900 £249
SB-R1 klt M- box £399
SD-8 batt pack £49
DR-3 angle finder £59
MB-10 (fits F90) £29
MB-23 (fits F4) £69
MC-30 remote £39
MF-23 (date back F4) £79

## DIGITAL USED

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**Used Fuji**
X-Pro2 body box
£999



**Used Olympus**
OM-D E-M1 body M- box
£599



**Used Sony**
A7R II body box
£2299



**FUJI DIGITAL USED**
X-Pro2 body box £999
X-T1 body graphite box £499
X-T1 body black £499
X-T1 body black £449
X-T10 body box £349
X-E1 body black £199
10-24 F4 £599
18-55 F2.8/4 XF £399
27 F2.8 XF box £199
35 F1.4 R box £399
55-200 F3.5/4.8 R £449
60 F2.4 macro box £429
1.4x converter £269
X-T1 vertical grip £79
X10 box £149

**MINOLTA/SONY DIGITAL USED**
Sony A7R II body box £2299
Sony A7 II body £999
Sony A6300 body £749
Sony VG-B30AM £69
Sony VG-C2EM £179
Sony VG-C70AM £139
Sony HV56AM £169
Sony LA-EA4 mount adap £189

**SONY NEX USED**
A6000 body £329
NEX 5 body £129
FE 16-35 F4 ZA OSS E £999
FE 16-50 F3.5/5.6 EZ £149
FE 28-70 F3.5/5.6 OSS £299
FE 90 F2.8 macro £799
Samyang 100 F2.8 macro £229

**MINOLTA/SONY AF USED**
Dynax 9 body £299
800Si body £69
7xi body £49
7000i body £39
300Si body £19
20-35 F3.5/4.5 M- box £249
24 F2.8 AF £199
24-50 F4 £99
24-85 F3.5/4.5 £149
28 F2.8 £99
28-80 F4/5.6 £39
28-85 F3.5/4.5 £99
35-70 F4 £39
35-70 F3.5/4.5 £25
35-80 F4/5.6 £25
35-105 F3.5/4.5 £99
50 F1.7 AF £89
50 F2.8 macro £149
75-300 F4.5/5.6 £99
85 F1.4 £549
100-300 F4.5/5.6 APO £149
VC700 grip £39
RC10005/L cord £15
Angle finder VN £69

**SONY LENSES USED**
16-80 F3.5/4.5 ZA DT £499
18-55 F3.5/5.6 SAM £59
18-200 F3.5/6.3 DT £199
55-200 F4/5.6 DT SSM £69
75-300 F4/5.6 £129

**SIGMA MIN/SONY AF USED**
18-35 F1.8 Art £449
28-135 F3.8/5.6 £79
28-300 F3.5/6.3 macro £149
50 F1.4 £149
50 F2.8 EX DG macro £149
55-200 F4/5.6 £69
70-300 F4/5.6 DG OS £169
70-300 F4/5.6 APO DG £99
150-500 F5/6.3 DG £499
170-500 F5/6.3 £299
1.4x EX conv £99
TAM 10-24 F3.5/4.5 DIII £239
TAM 18-200 F3.5/6.3 £99
TAM 70-300 F4.5/5.6 DI box £79
TAM 90 F2.8 £179/249
TAM 150-600 F5/6.3 USD £599
Teleplus 1.4x conv £69
Teleplus 2x conv £79
Kenko 1.4x Pro 300DG £149
Min 5200i £29
Min 5400HS £39
Min 5600HSD M- £99

**OLYMPUS 4/3 USED**
E10 MKII body £349
E10 body £279
14-42 F3.5/5.6 £49
14-45 F3.5/5.6 £79
14-50 F3.8/5.6 £199
14-54 F2.8/3.5 £149
35 F3.5 £99
35-100 F2 M- box £899
40-150 F4/5.6 £49
50 F2 macro £279
25mm ext tube £79
FL-36 Flash £119

**OLYMPUS MICRO 4/3 USED**
Stylus 1F £299
OMD-EM1 body M- box £599
OMD E-M5 MKII b/o box £499
OMD E-M5 body box £249
OMD-EM10 MKII body £299
OMD-EM10 body £249
12-40 F2.8 Pro £649
12-50 F3.5/6.3 £149
17 F2.8 £159
45 F1.8 box £199
40-150 F2.8 Pro £949
40-150 F4/5.6 £139
45 F1.8 £159
60 F2.8 £99
HLD-8 grip £149
HLD-7 grip box £119
HLD-6 grip £99

**PANASONIC DIGITAL USED**
GH2 body £299
G6 body black £299
G3 body box £129
GX7 body £399
GX1 body box £149
GF7 body silver box £299
GF3 body black £99
GF1 body £79
GM1 body silver £299
12-35 F2.8 £549
14 F2.5 £199
14-42 F3.5/5.6 £79
14-45 F3.5/5.6 £149
20 F1.7 £199
35-100 F4/5.6 £199
45-200 F4/4.5 box £199
100-300 F4/5.6 £349

**PENTAX DIGITAL USED**
Km body £149

## MEDIUM FORMAT 6x45, 6x6, 6x7 & 6x9 USED

*For more used equipment listings please see website www.mifsuds.com*

**Used Hasselblad**
50mm F4 CF FLE
£849



**Used Mamiya**
RB67 Pro SD + 90 KL + WLF + Back
£549



**Used Rollei**
3.5F 6x6 TLR
£see web



**BRONICA ETRS 645 USED**
40 F4 MC £149
75 F2.8 PE £149
105 F3.5 £99
135 f4 PE £249
150 F3.5 E £99
150 F3.5 PE M- Box £149
200 F4.5 PE £199
E14 Ext tube £49
E42 Ext tube £49
120 RFH £69
Polaroid Back £39
Plain prism £59
Rotary prism £99
Angle viewfinder E £129
Winder early £79
Speed Grip E £39
Tripod adapter E £39
Winder early £49
Metz SCA 386 £49

**BRONICA SQ 6x6 USED**
40 F4 S £299 50 F3.5 PS £299
50 F3.5 S £149
110 F4.5 PS macro £399
135 F4 PS M- £229
150 F3.5 S £79
150 F4 PS £149/199
180 F4.5 PS £399
200 F4.5 PS M- box £199
2x PS converter M- £179
135N back £119
SQA Polaroid back £59
SQAi 120 RFH £79
SQAi prism late £299
45° Prism box £129
Plain Prism S Boxed £69
AE Prism Early £79
ME Prism Finder £69
Metz SCA 386 £49
Pro shada S £59
Lens Hood 65-80 £20
SQAi Motorwinder £149
Speed grip S £79

**HASSELBLAD 6x6 USED**
Sports viewfinder £69
Chimney £89
A12 chrome latest £299
A12 late blk/chr £129
Polaroid back tatty £79
50 F4 CF FLE £849
80 F2.8 CF £479
150 F4 chrome serviced £199
250 F5.6 CF £399
Ext tube 21, 55 each £39
Vivitar 2x conv £49
Pro shade 6093 £99
Lens hoods various £20/50

**MAMIYA 645 MF USED**
645 Prol TL + 80 + prism + winder box £399
Plain prism (645 Super) £39
Polariod Back HP401 £29
Polaroid back £29
120 Insert £20
HA401 120 RFH Box £49
120 Back £39 Winder £79
45 F2.8 N £199
120 F4 macro £269
150 F2.8 A £199
150 F3.5 N £79
150 F3.8 NL leaf £299
210 F4 N M- £79
Ext Tube 1, 2, 3S each £29
Teleplus 2x converter £49
Vivitar 2x converter £39

**MAMIYA TLR 6x6 USED**
C330 F Body + WLF £149
55 F4.5 £199
65 F3.5 box late £199
65 F3.5 serviced £149
80 F2.8 late serviced £139
180 F4.5 £149
250 f4.5 late serviced £249
250 f4.5 early serviced £179
Paramender £49
Porrofinder £59

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

**MAMIYA RB 6x7 USED**
Pro SD + 90 KL + WLF + back £549
Pro S + 90 + WLF + back £399
Pro S body £149
Pro S body scruffy £99
Plain prism late £199
WLF £79 Chimney £99
120 645V back £99
50 F4.5 £199
90 F3.5 KL £299
127 F3.5 KL £299
180 F4.5 £149
Pro SD ext tube 2 82mm £99
Pro SD ext tube 1 45mm £99
Ext tube 2 £49

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

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

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

**PENTAX 67 USED**
45 F4 latest M- £499
135 F4 macro late £249
165 F2.8 latest M- £499
200 F4 latest £169
200 F4 early £99
300 F4 early scruffy £99
Pentax rear conv 1.4x £249
2x rear converter £179
Auto ext tubes £49
Vivitar 2x conv £49

**ROLLEI 6x6 TLR USED**
3.5F £see website

## 35MM & MISCELLANEOUS USED

*Please contact us to determine availability before making a lengthy journey*

**Used Leica**
R8 body black box
£499



**Used Zeiss**
Victory Diascope 85T* FL + 20x60 box
£1399



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

**CONTAX 35mm RF USED**
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CONTAX MF USED
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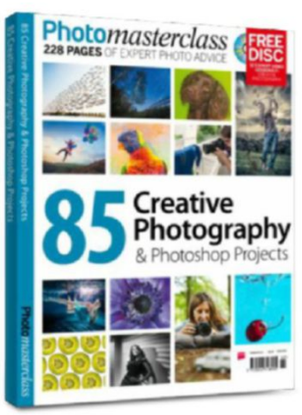



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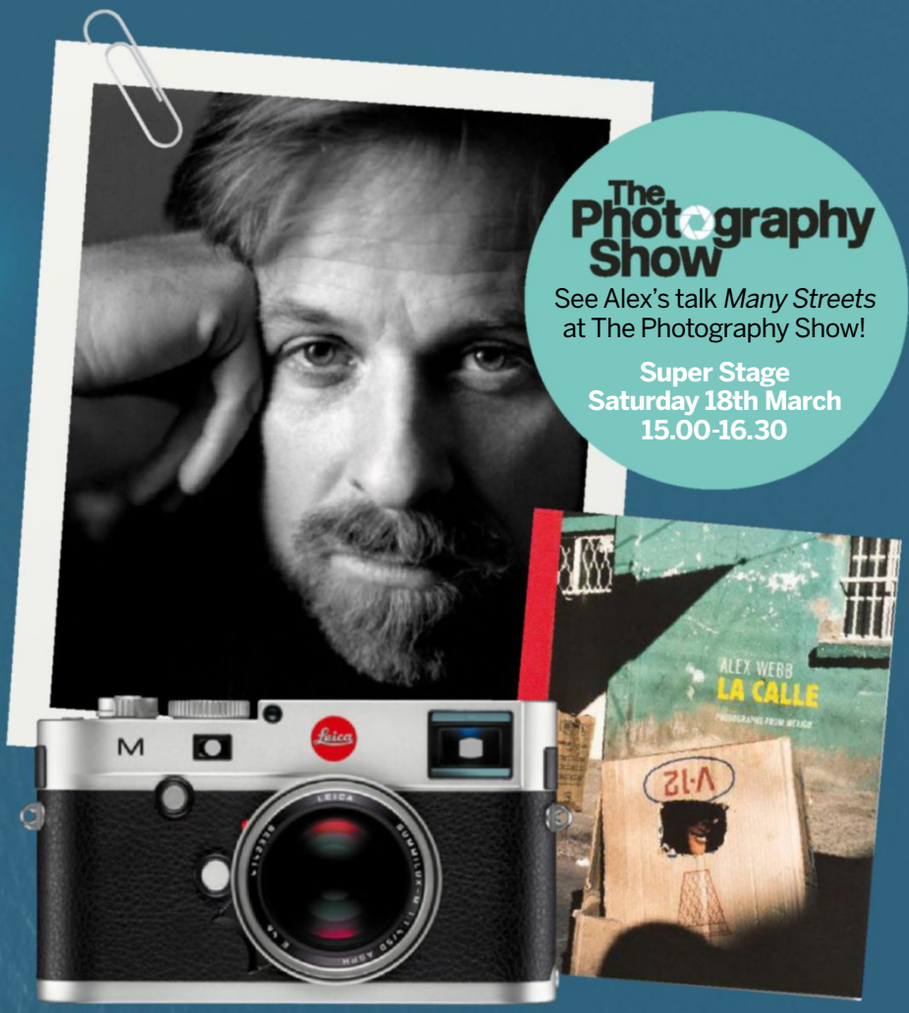


# DESERT ISLAND D-SLR

## Alex Webb

*Photojournalist and Magnum photographer*

**www.webbnorriswebb.co**




**The Photography Show**

See Alex's talk *Many Streets* at The Photography Show!

**Super Stage**
**Saturday 18th March**
**15.00-16.30**

**Which photographers (living or dead) would you like to have round for dinner?**
I'd like to see what a mid-life Tolstoy, Shakespeare, Octavio Paz, and Ryszard Kapuscinski would have to say to one another over dinner. (And what would they eat?)

**What's your current mood?**
I'm very disturbed – and scared for this country and the world – by the new US presidency.

**What's on your memory card?**
Photographs from Brooklyn, NY, where I am working on a project called *The City Within*, with the photographer and poet (and my wife and creative partner) Rebecca Norris Webb.

**What did you want to be when you were five years old?**
A paleontologist.

**What's in your kit bag right now?**
I prefer working with a Leica rangefinder with a 35mm lens. If I'm on assignment, I may also bring a single-lens reflex, as the parameters and demands are often different than those of personal work.

**How would you describe your photography?**
If pressed, street photography – but by that, I mean a kind of exploratory photography.

**To crop or not to crop?**
I choose not to. It's not a moral decision – I don't castigate those who do crop.

**How many pictures do you shoot a year?**
When I worked with film, typically 1,500 rolls a year; more than 50,000 images. Now I'm working digitally, I take perhaps 25% more.

**If you weren't a photographer, what would you have done?**
I probably would have tried to write novels. Fortunately the world was spared my efforts...

**What words of wisdom do you give to aspiring photographers?**
Photograph what you're most passionate about.

**What was your first camera?**
A small Kodak camera – not a Brownie, but similar.

**How would a friend describe you in three words?**
My father described me in one word: "Sisyphus". The image of Sisyphus rolling a boulder up a hill is a good metaphor for street photography.

**What food do you take on a shoot?**
I prefer to eat food from street vendors or small cafes, where I sometimes also find photographs.

**Any regrets?**
Why beat oneself up for the past that one cannot change? I try to learn from the past and move on.

**Who has influenced you the most?**
Photographers: Cartier-Bresson, Frank and Friedlander. Painters: Giorgio de Chirico and Braque. Writers: Graham Greene, Joseph Conrad, Octavio Paz and Gabriel Garcia Marquez. Cinema: Bertolucci, Fellini and Altman. Music: the blues.

**What is your Desert Island D-SLR?**
It would be a Leica rangefinder. These days I'm using an M 240.

*La Calle: Photographs from Mexico by Alex Webb is on sale at bookstores.*

Illustration: Andy McLaughlin

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# D3400







# I AM WHAT I SHARE



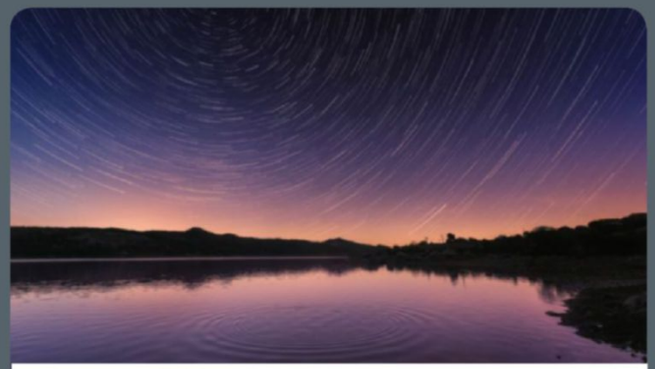

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YOUR EXCLUSIVE DIGITAL CAMERA NIGHT PHOTOGRAPHY TIP CARDS



Digital Camera SHOOT SUPERB STAR TRAILS



Digital Camera SHOOTING THE MOON



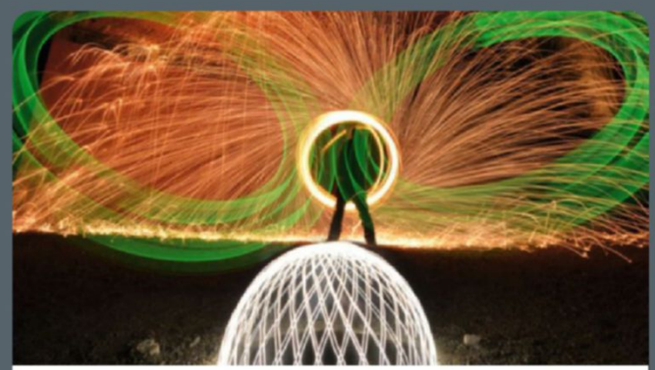
Digital Camera SHOOT VEHICLE TAIL LIGHTS



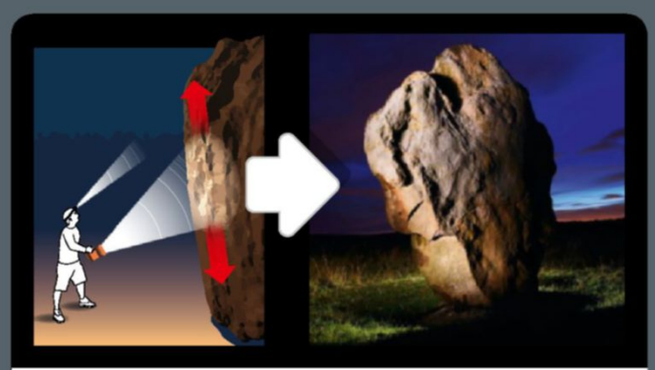

Digital Camera UNDERSTANDING IMAGE NOISE AT NIGHT



Digital Camera SHOOTING THE MILKY WAY



Digital Camera CREATE DRAMATIC FIRE-SPIN EFFECTS



Digital Camera PAINTING WITH LIGHT



Digital Camera ZOOM-BURST EFFECTS AT NIGHT



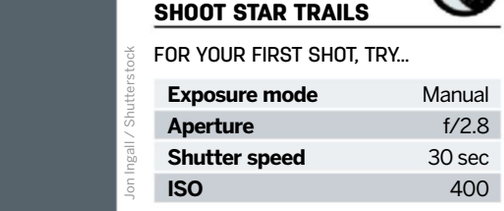
Digital Camera MASTER LONG EXPOSURES AT NIGHT

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# YOUR EXCLUSIVE DIGITAL CAMERA NIGHT PHOTOGRAPHY TIP CARDS

Digital Camera

## SHOOT STAR TRAILS


Jon Ingall / Shutterstock

FOR YOUR FIRST SHOT, TRY...

| | |
|---|---|
| **Exposure mode** | Manual |
| **Aperture** | f/2.8 |
| **Shutter speed** | 30 sec |
| **ISO** | 400 |

TO IMPROVE YOUR SHOT...

- Use an intervalometer (some cameras have this feature built-in) to take a shot every 30 seconds for at least an hour.
- Use a sturdy tripod, and set up the composition to include plenty of sky.
- Check the weather forecast for clear conditions before you head out.

**TOP TIP: Apply the Lighten Blend Mode to every layer (except the bottom one) when you merge the frames in Photoshop.**

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Digital Camera

## UNDERSTANDING NOISE

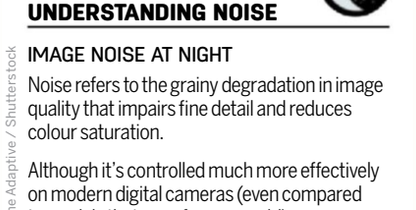

The Adaptive / Shutterstock

IMAGE NOISE AT NIGHT

Noise refers to the grainy degradation in image quality that impairs fine detail and reduces colour saturation.

Although it's controlled much more effectively on modern digital cameras (even compared to models that are a few years old), as you increase ISO value to make the chip more sensitive to light, you also increase the noise in the image.

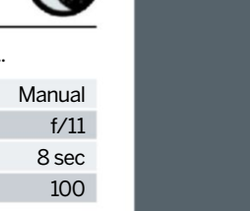
Avoid or minimise noise in static scenes by using your lowest ISO value (normally 100), a tripod and a longer shutter speed to compensate. For moving subjects or in dim conditions, you might need a higher ISO setting to get a sharp shot.

The effects of noise can be reduced with noise reduction processing in raw-editing software like Lightroom or Adobe Camera Raw.

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Digital Camera

## PAINTING WITH LIGHT


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FOR YOUR FIRST SHOT, TRY...

| | |
|---|---|
| **Exposure mode** | Manual |
| **Aperture** | f/11 |
| **Shutter speed** | 8 sec |
| **ISO** | 100 |

TO IMPROVE YOUR SHOT...

- After you've framed and focused, switch to MF to ensure the focus doesn't change.
- Move the torch steadily across the subject for an even result.
- Try making a few short exposures, lighting the subject in sections. Blend these frames together in Photoshop afterwards.

**TOP TIP: Set a self-timer delay of five or 10 seconds. This will give you enough time to get into position with your torch.**

Digital Camera

## SHOOTING THE MOON


Sascha Gebhardt / Shutterstock

FOR YOUR FIRST SHOT, TRY...

| | |
|---|---|
| **Exposure mode** | Manual |
| **Aperture** | f/11 |
| **Shutter speed** | 1/125 sec |
| **ISO** | 100 |

TO IMPROVE YOUR SHOT...

- Think long focal lengths. A 300mm lens works, but if you can get your hands on a 500mm, a 600mm or bigger, go for it!
- Use a remote cable release or self-timer delay to avoid camera shake.
- Frame up with Live View and zoom in on the edge of the moon to focus.

**TOP TIP: Engage the camera's mirror-lock mode (if it has one). This will minimise any vibrations when the shutter is fired.**

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Digital Camera

## SHOOT THE MILKY WAY


Jasmine_K / Shutterstock

FOR YOUR FIRST SHOT, TRY...

| | |
|---|---|
| **Exposure mode** | Bulb or Manual |
| **Aperture** | f/2.8 |
| **Shutter speed** | 30 sec |
| **ISO** | 3,200 |

TO IMPROVE YOUR SHOT...

- A dark sky free from light pollution is an absolute must. Shoot during a new moon.
- Go lower or higher on the ISO depending on how well your camera handles digital noise.
- Find out when the Milky Way will be most visible in your hemisphere, as it shifts throughout the year.

**TOP TIP: For pin-sharp stars, calculate the shutter speed using the '500 rule' - divide 500 by the focal length of the lens.**

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Digital Camera

## ZOOM-BURST EFFECTS


Yiucheung / Shutterstock

FOR YOUR FIRST SHOT, TRY...

| | |
|---|---|
| **Exposure mode** | Shutter Priority |
| **Aperture** | f/8 |
| **Shutter speed** | 1-4 sec |
| **ISO** | 200 |

TO IMPROVE YOUR SHOT...

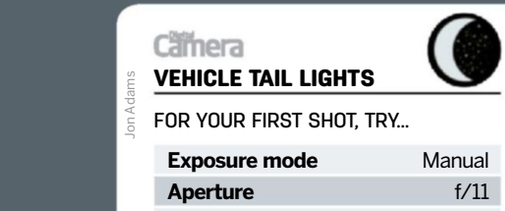
- Look for subjects with bold colours and patterns.
- Vary the effect by changing the shutter speed and amount of zoom. Use an ND filter if the exposure isn't dark enough.
- Rotate the zoom ring while the exposure is being made for light smears and streaks!

**TOP TIP: For smooth results, start moving the camera before pressing the shutter. Keep zooming after the exposure.**

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Digital Camera

## VEHICLE TAIL LIGHTS


Jon Adams

FOR YOUR FIRST SHOT, TRY...

| | |
|---|---|
| **Exposure mode** | Manual |
| **Aperture** | f/11 |
| **Shutter speed** | 10 sec |
| **ISO** | 200 |

TO IMPROVE YOUR SHOT...

- Find a spot where there's a busy flow of headlights and tail lights.
- Find a vantage point to shoot from. Footbridges can provide great views.
- Arrive just in time for sunset. At this time you'll still be able to capture some colour in the sky.

**TOP TIP: If you stay in your shooting location after sunset, you can still capture some detail and colour in the sky.**

DCM188

Digital Camera

## FIRE-SPIN EFFECTS


Jasmine_K / Shutterstock

FOR YOUR FIRST SHOT, TRY...

| | |
|---|---|
| **Exposure mode** | Manual |
| **Aperture** | f/8 |
| **Shutter speed** | 30 sec |
| **ISO** | 100 |

TO IMPROVE YOUR SHOT...

- Use fine steel wool, such as grade 0. You can pick it up from most hardware shops.
- Choose a remote outdoor location. Always practice this fiery technique away from the general public!
- Adjust the exposure settings depending on the sky's brightness and the flow of traffic.

**TOP TIP: Safety is top priority! Wear goggles, a hat and cotton clothing that won't melt. Cover all exposed skin.**

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Digital Camera

## LONG EXPOSURES


Jon Adams

THE RIGHT AMOUNT OF LIGHT

To record a good exposure on your camera, you'll need to control three variables: aperture, ISO and shutter speed.

The aperture is an adjustable hole in the lens that lets more or less light through; the ISO controls the light sensitivity of the camera sensor; and the shutter speed governs how long the light is allowed to strike the sensor.

In very dim conditions, the best option for getting more light to the sensor is to extend the shutter speed by seconds or even minutes. With long exposure times, it's impossible to keep a hand-held camera still. To record sharp shots, a sturdy support is needed to lock the camera in place. Anything moving in the scene will become blurred, but in low-light and night photography, this can be used to creative effect.

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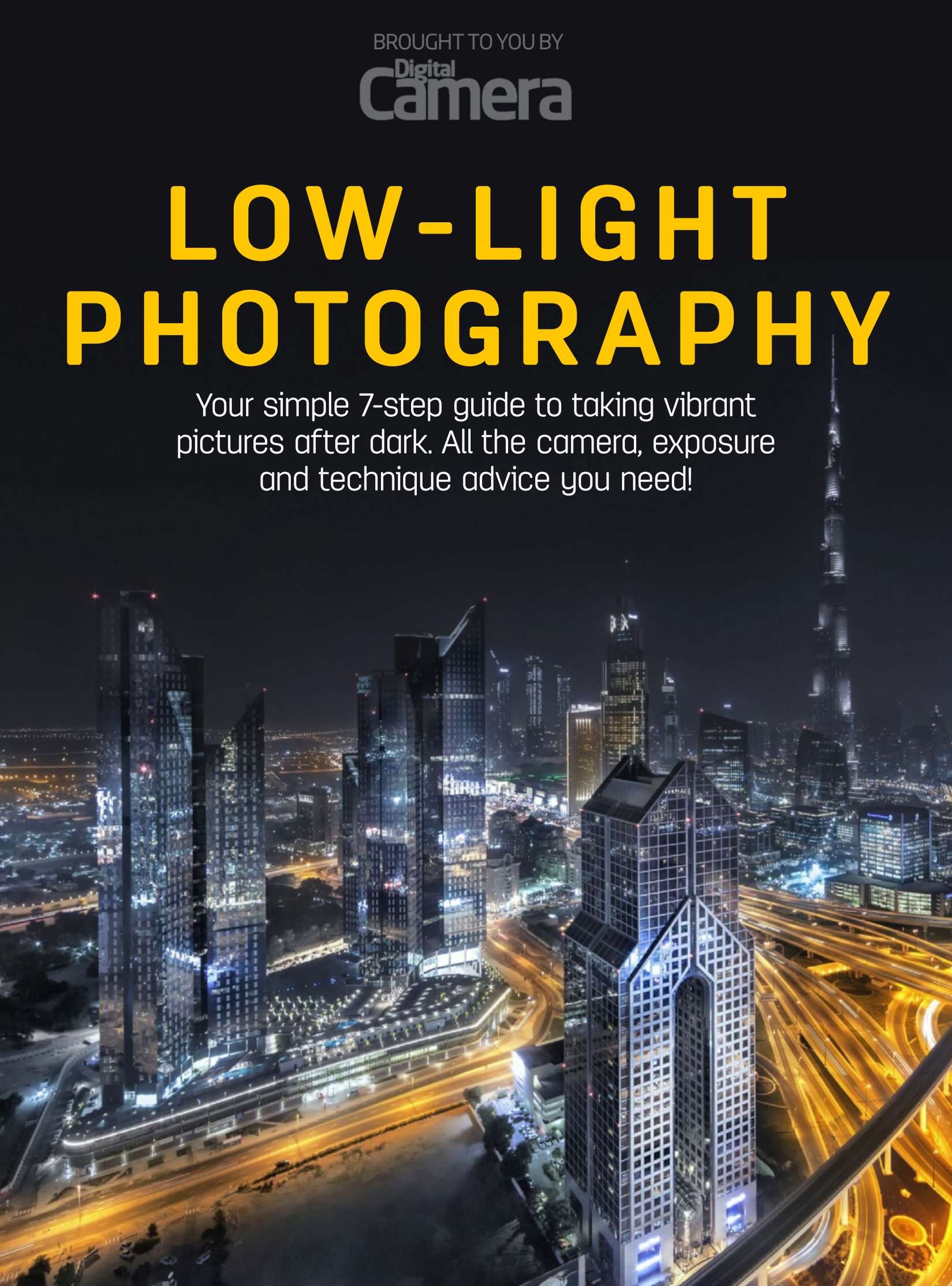
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# LOW-LIGHT PHOTOGRAPHY

Your simple 7-step guide to taking vibrant pictures after dark. All the camera, exposure and technique advice you need!



# 1 GETTING STARTED

**Shooting in the dark needn't be difficult – as long as you get to grips with the basics**

Getting great low-light pictures means applying the same attention to light and composition as you do in daylight. But before you head out into the night, it will pay dividends if you plan ahead. Pick good locations beforehand by scouting out local spots with interesting lights and architecture. If you're looking to shoot traffic light trails, check which roads are busiest, the best time for traffic, and the best (and safest) position to take your photos.

Carefully study the scene before you start taking photos. Are some parts in complete darkness? Do areas of the shot become more interesting, brightly lit or colourful as it gets darker? If so, don't be afraid to zoom in on the most photogenic areas.

If you're photographing low-light landscapes, arrive at the location with plenty of time to set up. The best pictures are often taken when there's still some light and colour in the sky, and particularly if floodlit buildings are a feature of the shot. Pictures will be more interesting, and exposures easier, if the brightness of the sky and that of subjects lit by artificial light are balanced.

## Maximise quality

For the best results, shoot in raw. This way your images will retain the most information, which gives you greater scope for enhancing your shots in Adobe Camera Raw and other raw-processing software. Raw is especially beneficial when you're taking night shots, because it gives more flexibility when you want to change things such as colour temperature, or brighten or darken your exposures.

Finally, although you might be tempted to increase the ISO to access faster shutter speeds, you'll get the cleanest pictures if you stick to a setting of around ISO 100-200. As you move to higher sensitivity settings, your pictures will become noisier, but this effect can be reduced using your camera's High ISO Noise Reduction feature, or image-editing software.

"Arrive in plenty of time. The best pictures are often taken when there's still some light and colour in the sky"



Arrive at your planned location in daylight, so that you have plenty of time to find the best composition and set your tripod up accordingly before the light levels start to drop.

Cover image: Shutterstock / Fortune-stock This image: Mike Mezeul mikemezeulphotography.com

# 2 ESSENTIAL GEAR

## Want to take quality low-light shots? Here's what you need to pack before you head out

You can take great night shots with any type of camera, although you'll have more flexibility and get the best-quality results if you use an SLR. When it comes to lens choice, the faster (ie, the wider the maximum aperture it has) the better. A wide-aperture lens will give the brightest image possible through the viewfinder, in addition to letting you select from faster shutter speeds as the light levels start to drop. Here's what else will make life easier on a night shoot...

### TRIPOD



You'll need to support your camera during long exposures at night. Choose a tripod with a sturdy set of legs and a rock-solid head. Padded leg wraps (or pipe insulation trimmed to size) make tripods more comfortable to carry and use in cold weather.

### LENS HOOD



A lens hood is just as useful in the dark as it is during the day. Street lights, car headlamps, torches and other light sources can create flare, which reduces contrast – a bit like staring at a scene through a veil. Fit a lens hood to block this unwanted light.

### SPARE BATTERY




Keep your camera working when the temperature drops. Cold weather can sap battery life, even when they're sat in your bag, so charge up your main battery before you head out for the night. Keep a spare warm in an inner jacket pocket to ensure you don't miss any photo opportunities.

### EXTRA MEMORY CARDS




You'll be surprised how quickly low-light photography can eat space on your memory card, especially when you're trying hit-or-miss techniques such as shooting creative blurs or capturing the changing colours of sunrise or sunset. Take as many high-capacity cards as you can.

### FLASHGUN



An external flashgun will add an extra dimension to your low-light photography – especially when it's used off-camera, either wirelessly or by using an off-shoe cord. Use flash to light the subject and a slow exposure to capture detail in the background.

### TORCH



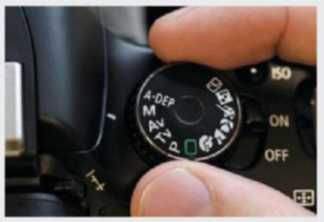
A torch won't cost you much, but can help cut down on time spent hunting for equipment in the dark. It will also allow you to check your settings without having to activate your camera's rear or top-plate LCD (if it has one), saving your precious battery life.

# 3 NIGHT EXPOSURES

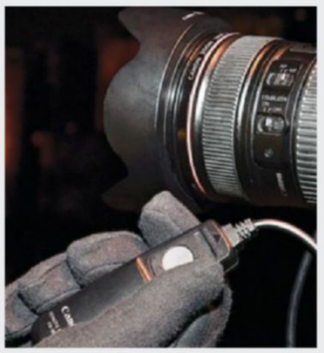
## Getting a good exposure in low light is actually easier than in the middle of the day

To take control of your exposures at night, it's best to shoot in Manual mode so you can choose the best narrow aperture and slow shutter speed. Begin by composing and focusing your shot, set a narrow aperture of around f/16, then dial in the right shutter speed until the Exposure Level mark is in the middle of the Exposure Level Indicator in the viewfinder.

Take some shots and review them on the LCD. Remember, this is what your camera thinks is the best exposure, but if your shots are looking too bright, under-expose by one or two stops so that they actually look dark.




**Above** Rotate the exposure mode dial to 'M', then set the aperture and shutter speed manually



**Above** A remote release allows you to fire the shutter without touching the camera, giving sharper results.

### Stay sharp

Low light levels will result in slow shutter speeds, anywhere from one to 30 seconds. That's way too slow to shoot hand-held, so you'll need to use a tripod if you want sharp results. Ensure your tripod is set up correctly, as the tiniest movement can create camera shake during long exposures. This even includes the mirror moving up and down inside an SLR. You can enable Mirror Lockup to get around this potential pitfall; look for it in the menu, or marked as an option on your camera's dial. Even touching your camera to press the shutter-release button can create enough movement to leave you with blurred results. Use your camera's built-in self-timer to trigger the shutter after you've pressed the button to avoid any problems. For shots that rely on accurate timing (such as long exposures of car trails), try using a remote shutter release instead.

> "If your shots are looking too bright, under-expose by one or two stops so that they actually look dark"

**EXPOSURE GUIDE FOR POPULAR LOW-LIGHT SUBJECTS**

| SUBJECT | SHUTTER SPEED | APERTURE | ISO SETTING |
|---|---|---|---|
| Stage show | 1/60 sec | f/4 | 400 |
| Live music | 1/125 sec | f/4 | 800 |
| Fairground rides | 15 secs | f/16 | 100 |
| Floodlit cathedral | 4 secs | f/16 | 100 |
| Skyline at dusk | 1/30 sec | f/5.6 | 100 |
| Skyline at night | 15 secs | f/5.6 | 100 |
| Full moon | 1/250 sec | f/8 | 100 |
| Moonlit land-scape | 4 mins | f/5.6 | 100 |
| Lightning strike | Bulb | f/11 | 100 |

# 4 NIGHT CITY SCENES

## How to use long exposures after dark to capture colourful light trails in your images

Look out for street lamps, light trails from cars and sunsets that will add colour and interest. Head out when it's been raining, as lights reflected in puddles can double the impact of your pictures. *Will you be using a tripod?*

**Yes** | **No**

Tripods help you to consider image opportunities more carefully. As long as you're not worried about subject movement, you'll be free to use low ISO settings, smaller apertures and slower shutter speeds.

The amount of light generated by shops, street lights and signs can deliver a fast enough shutter speed for hand-holding your camera. Increase the ISO setting and use your lens's widest aperture to get faster shutter speeds. Brace your camera by leaning against a wall or similar, and turn on the High ISO Noise Reduction feature.

*Would you like to capture light trails as part of your picture?*

**No** | **Yes**

In Manual mode (M), choose the widest aperture (lowest f-number) to give you the fastest shutter speed. Increase the ISO to between 400 and 800 and take a test shot.

Find a good spot near traffic lights or where the volume of traffic increases. Choose the lowest ISO setting and use Manual mode (M) to dial in a shutter speed of 10 seconds. Take some test shots and view the results on the LCD – using the histogram to check exposure. *Are the light trails long enough?*

**No** | **Yes**

Choose a slower shutter speed (try 20 sec) and take another shot. Repeat until you're happy with the length of the trail.

*Are the results too bright (with the histogram bunched to the right) or too dark (with no detail on the right of the graph)?*

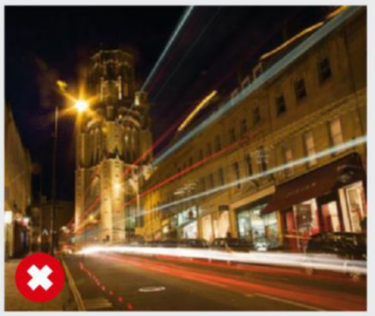
**Too bright** | **Too dark**

Choose a smaller aperture setting (higher f-number) and take another shot. Check the histogram and repeat the process until the highlights can be seen to the right of the graph.

Choose a wider aperture (lower f-number) and take another test shot. Check the histogram and repeat the process until the histogram just touches the right of the graph.



**Above** For top results, start shooting when there's still colour left in the sky.



**Above** Leave it too late and the sky will appear black and featureless.

# 5 MOONLIT SCENES

## Give your scenic shots a magical twist by shooting them under the stars

Choose a location far from the sodium glow of street lights. Find a suitable focal point for your moonlit landscape, such as a church, standing stones or dramatic headland. Try to start shooting three hours after 'moonrise' for the best results.

With your camera on a tripod, choose Manual (M) mode and select ISO 800. An exposure of 30 sec at f/4 is a good starting point. If your lens aperture doesn't offer this wide setting, increase the ISO to compensate. Take a test shot with the lens set to Manual (M) and focused at infinity. *Do the results look OK, or are they too brown?*

**Look OK** | **Too brown**

Zoom into the shot to check the focus. *Are foreground details sharp or blurred?*

**Sharp** | **Blurred**

Try your camera's Tungsten white balance setting, or make a custom white balance of around 3,200K.

Check the histogram. The shot's graph should be bunched to the left, because the scene is full of dark tones and shadows. If it's not, decrease the ISO.

Try to avoid including any subject that's too close to the camera in your composition. Depth of field is limited at wide apertures.

If your shot is severely under-exposed, increase the ISO setting. Don't choose a slower shutter speed, because at longer exposures the stars will be rendered as short streaks of light.



The long exposures required at night mean that even the slightest movement in the clouds will be seen.

Shutterstock / Fortune-stock

# 6 LOW-LIGHT PORTRAIT

## The flash settings and techniques you need to get well-lit pictures of people at night

*Do you want to use flash to light your subject, or just capture the mood of the ambient light?*

**Flash** | **Ambient light**

**Ambient light:** In Aperture Priority mode (A or Av) choose the lens's widest aperture and increase the ISO to a setting that will allow you to get sharp pictures. Take test shots and evaluate the results, adjusting the ISO as necessary. Expect the results to be noisy.

**Flash:** By using low ISOs and fill flash, you'll get cleaner pictures. *Are you shooting in an environment that's mostly lit by tungsten lights or fire?*

**Yes:** Try placing a warming gel over the flash, so that its burst of light blends with the scene. Alternatively, shoot a single raw file, then save it out with different white balance settings and blend the images together.

**No:** Choose the camera's slow-sync flash mode. To activate slow-sync flash on a Nikon SLR, set the flash mode to Slow. On Canons, just set the mode dial to Av and flip up the flash. For other brands, check your manual.

Take a shot. *Are the results blurred or sharp?*

**Blurred:** In slow-sync mode, the camera automatically uses flash to light the subject, and a longer exposure to capture background detail. If the camera or subject moves during this longer exposure, the photo will feature blurred elements. The answer is to use a tripod.

**Sharp:** *Does your subject appear too dark or too bright?*

**Too dark:** Get closer to the subject, use a wider aperture or set a higher ISO.

**Too bright:** Reduce the power of the flash, use a smaller aperture or set a lower ISO.



Combine flash with longer exposures for balanced shots.

# 7 PAINT WITH LIGHT

## Grab a torch and get creative – 'painting' your subjects for dramatic effects

With your camera mounted on a tripod, manually focus on the subject. Switch to Manual (M) mode, then set the ISO to 100 and aperture to around f/8. For the shutter speed, choose the camera's Bulb setting. Using a lockable remote release, lock open the shutter and 'paint' the subject with a strong spotlight torch. Try a 120-sec exposure, unlocking the release to close the shutter. Check the results on the rear screen. *Is the image too dark or too bright?*

**Too dark:** Use a wider aperture (lower f-number) or try a longer exposure time. Take further test shots until you're happy with the exposure.

**Too bright:** Use a smaller aperture (higher f-number) or try a shorter exposure time. Take further test shots until you're happy.

*Are there flares or streaks of light throughout the frame?*

**Yes:** You've probably been wandering around the scene with the torch still switched on. Make sure you switch it off when you're not 'painting'. Take another test shot.

**No:** *Are some parts of the subject much brighter than others?*

**Yes:** You need to keep the torch beam in motion, just like painting with a brush, otherwise you'll have patches and blotchy lighting over the subject. With this in mind, take another test shot.

**No:** *Zooming in on the image, does it look blurred?*

**Yes:** Your tripod isn't sturdy enough. Long exposures and wind are a volatile mix, so try hanging your camera bag from your tripod or weighing it down with a jacket to keep it rock steady.

**No:** Take your shots. Don't take risks while working in total darkness. Arrive in daylight so you can check out the terrain, keep another torch handy and carry a phone for emergencies.



**Right** Avoid lighting a scene by standing in one spot and painting from waist height. Keep moving for a better result.

[PHOTOSHOP GUIDE]

# 44 SECRETS OF CAMERA RAW



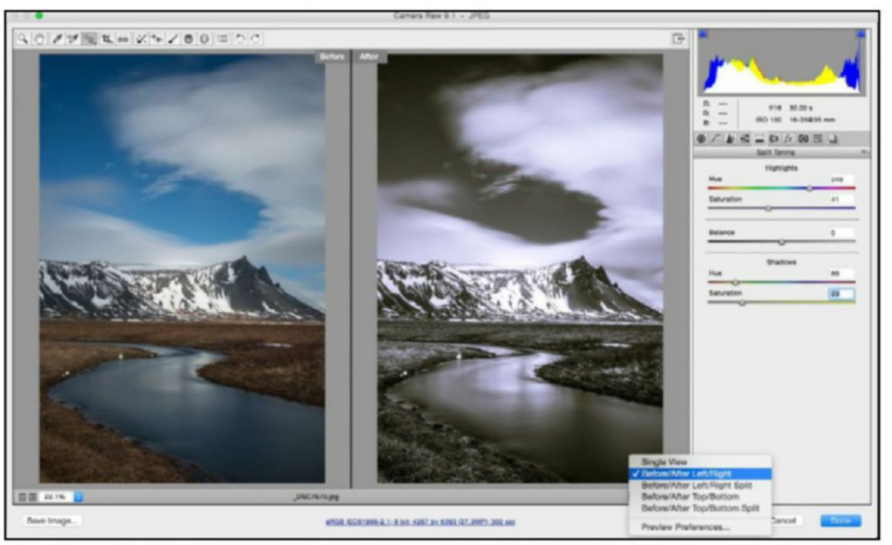
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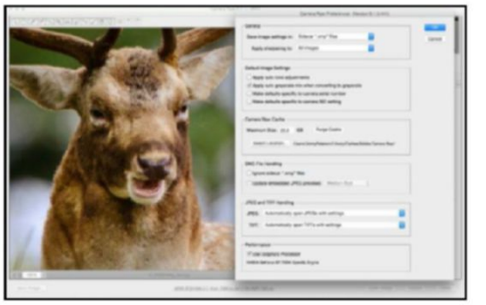
Digital Camera

# WORKFLOW TIPS

## 1 BEFORE AND AFTER VIEWS

The buttons in the bottom-right corner of the image display give you a set of useful preview options for comparing the before and after of your edits. The left icon that looks like a Y gives you different split-screen before/after views, such as horizontal or vertical comparisons and splits. (Hold your mouse button down on the icon to choose from the list, or click to toggle between each.) The second and third icons enable you to toggle between before and after settings.



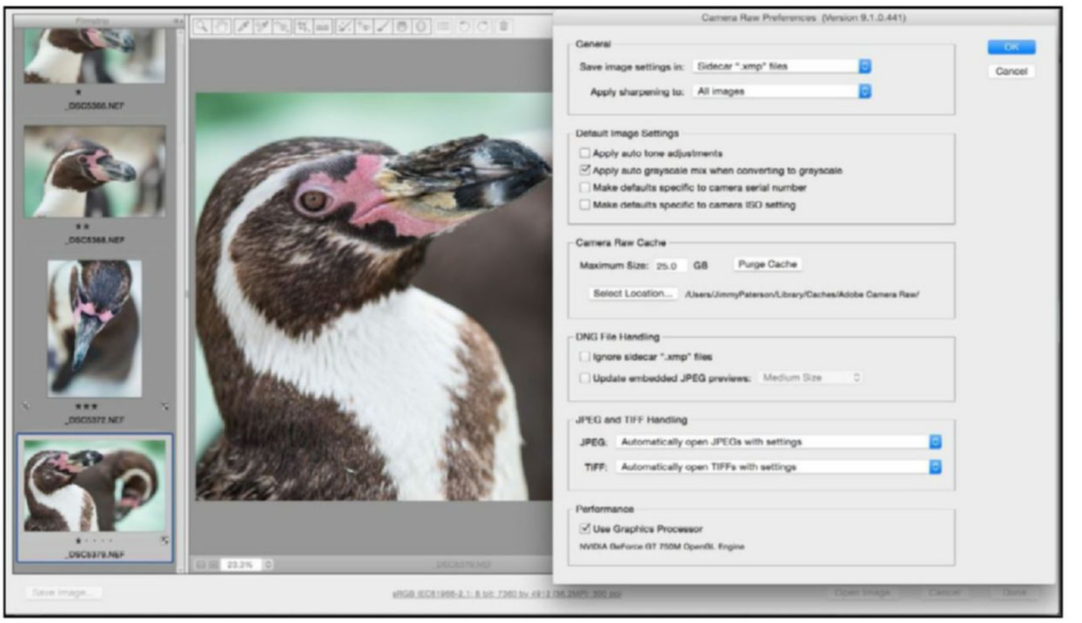



## 2 SCRUBBY ZOOMING

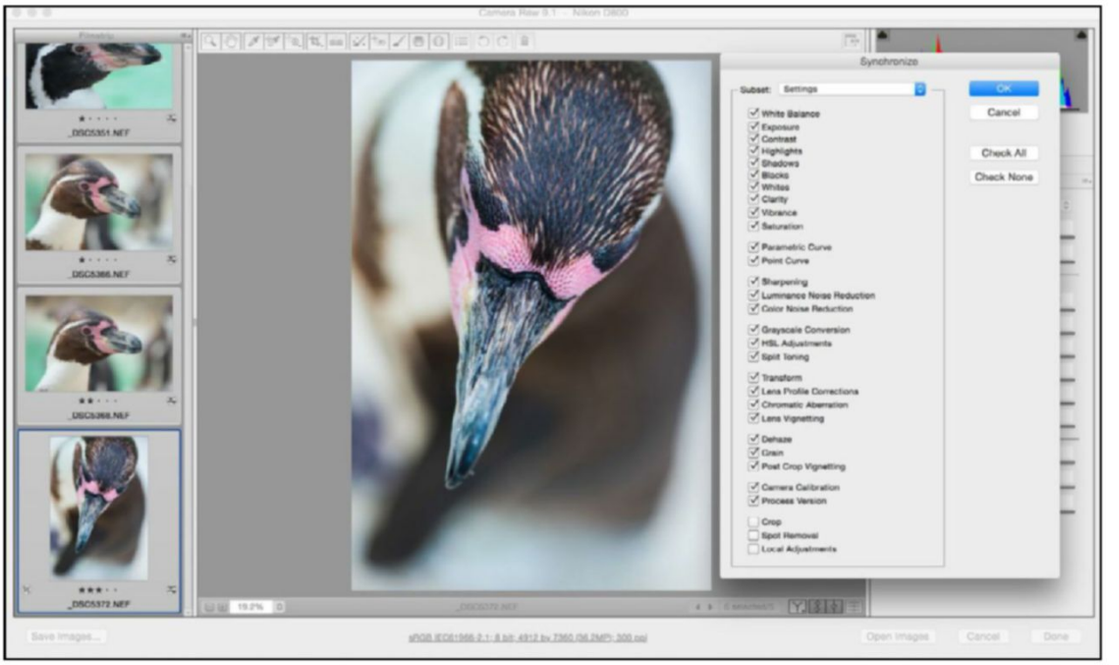
The latest CC versions of Camera Raw feature 'scrubby zooming', which means, as long as your graphics card can handle it, you can drag right or left with the zoom tool to fly in and out of your image. To make sure the feature is enabled, click the Preferences button in the toolbar at the top and check Use Graphics Processor in the Performance tab. When using another tool, such as the Spot Removal tool, you can hold Ctrl/Cmd to temporarily switch to the Zoom tool, so it's easier and quicker than ever to retouch an image by jumping in close to different areas.

## 3 CACHE SIZE

If you're in the habit of bringing lots of images into Camera Raw at once, you might notice that the images take a second or two to display, in which case increase the cache size in the Preferences menu. The larger the size, the greater the number of image previews ACR can hold.



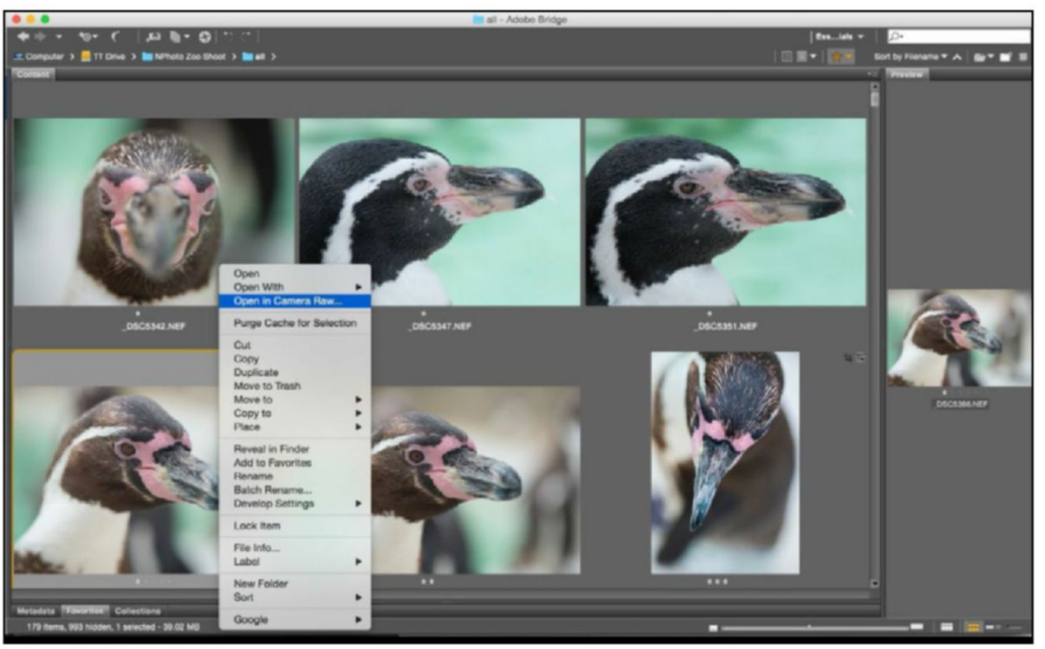
## 4 SYNC SETTINGS




When several images are opened together in Camera Raw, you can edit them all at once in two different ways. Either select several in the filmstrip by Ctrl/Cmd-clicking them, and then begin your edits. Alternatively, edit a single image first, then select several and use the Sync settings option in the top-left drop-down menu. This second option has the added benefit that you can choose exactly which edits are synced – useful if, for example, you need to batch-fix a recurring sensor mark, but leave the other settings untouched.

## 5 YOU DON'T EVEN NEED TO OPEN PHOTOSHOP!

Bridge can 'host' Camera Raw, so there's no need to have Photoshop open. Simply open Bridge, then right-click an image and choose Open in Camera Raw.




## 6 MUST-KNOW NAVIGATION SHORTCUTS

Use Ctrl/Cmd + or – to zoom in or out, and hold down the space bar to drag around the image when zoomed in.

## 7 RESET SLIDERS

Double-click any slider to reset it.

## 8 SNAPSHOTS AND PRESETS

Use the Snapshot panel to save noteworthy points in your workflow, and the Presets panel to save settings for use on other images.

## 9 CAMERA RAW DEFAULTS

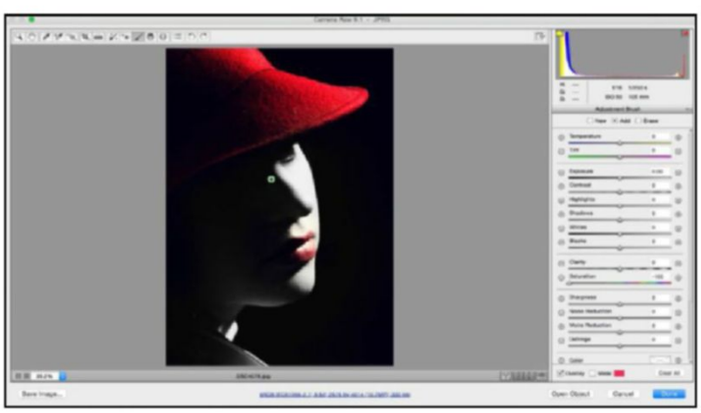
Sometimes you just want to get rid of everything you've done to an image and start afresh. Click the flyout menu next to the panels and choose Camera Raw defaults.



# TOOL TIPS

## 10 SPEEDY SPOT COLOUR

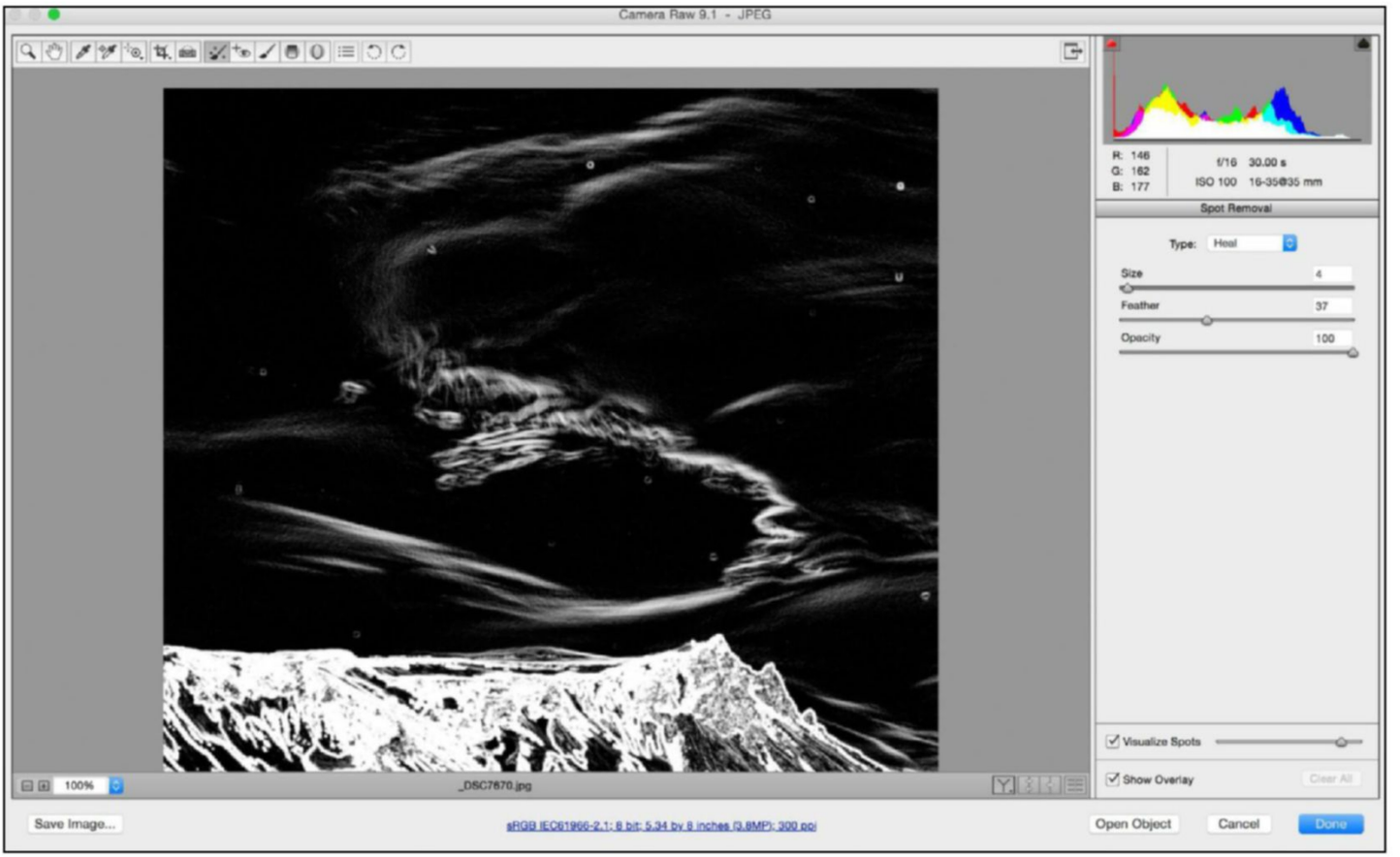
The Targeted Adjustment tool can give you a rough-and-ready spot-colour effect in seconds. Right-click with the tool, choose Saturation, then drag down over the colours you want to remove.





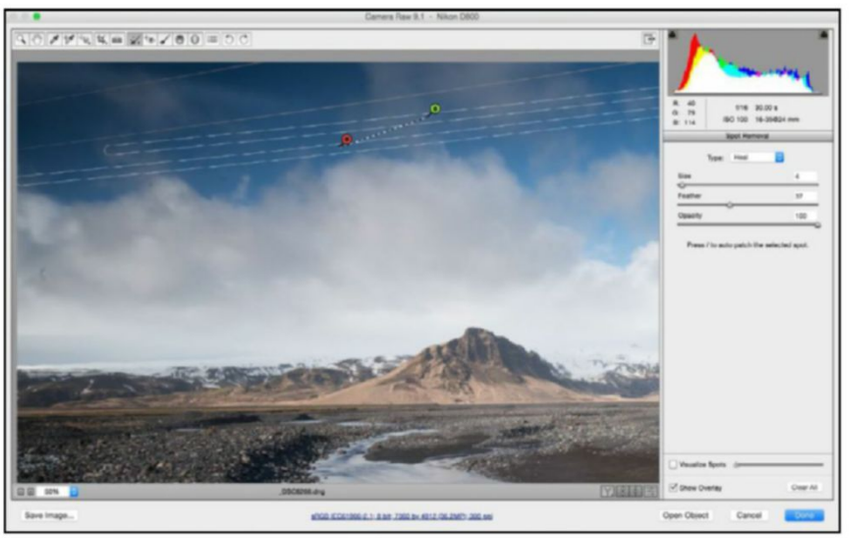
## 11 FIX THE WHITE BALANCE

One of the great advantages of shooting in raw mode is that the files hold more colour information than JPEGs, which means you can use the raw colour data to adjust the white balance after taking the shot to correct colour shifts and inconsistencies. To do this, simply grab the White Balance tool, then look for a colour in the scene that should be either white or grey, such as the rocks in this picture.




## 12 CHECK FOR MARKS

The Visualise Spots checkbox in the Spot Removal tool settings is ideal for those with dirty sensors. Tick it for a clear black-and-white view of the marks.



## 13 REMOVE WIRES

When you're using the Spot Removal tool to get rid of wires in a landscape or other types of thin line, click one end of the line, then hold Shift and click the other end to draw a straight line – and fix the whole thing in one go.

## 14 JUMP TO 100% VIEW

Double click the Zoom tool to jump to a 100% view – useful for judging sharpening and noise reduction – then double-click the Hand tool to jump back out and fit the whole image on the screen.

## 15 TOGGLE CROPS

When using the Crop tool, press X to toggle between a vertical or horizontal orientation.

## 16 CUSTOM CROPPING

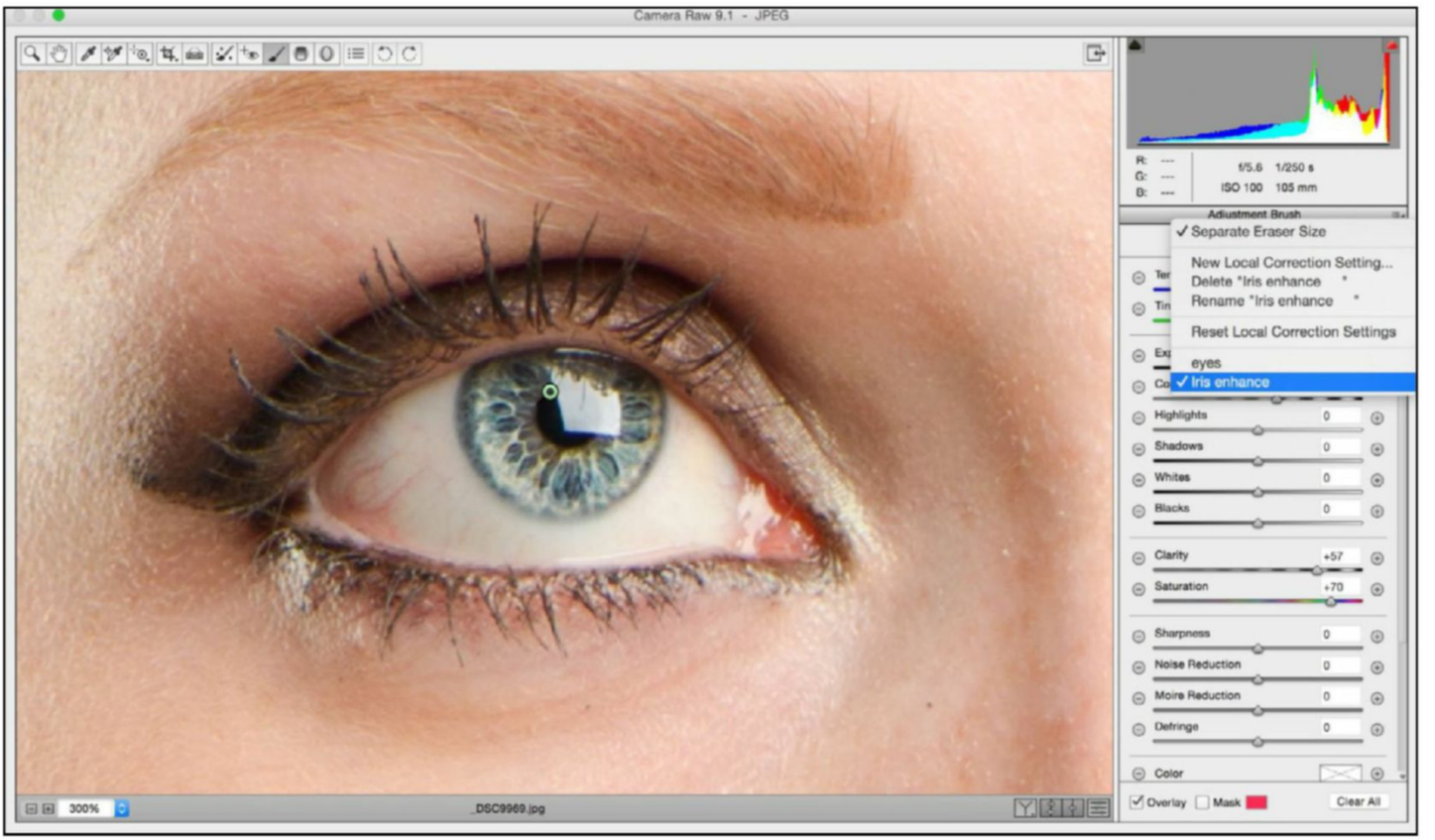
When using the Crop tool, right-click the image to choose a proportion such as 2:3 or 1:1. Tap A to switch to the Level tool, then drag along the horizon.




## 17 MONOCHROME IN A SPLIT SECOND

Grab the Targeted Adjustment tool from the Tools panel, right-click and choose Grayscale Mix for a speedy mono conversion, then fine-tune the image by dragging up or down over points in the image to lighten or darken them.

# SELECTIVE ADJUSTMENT TIPS



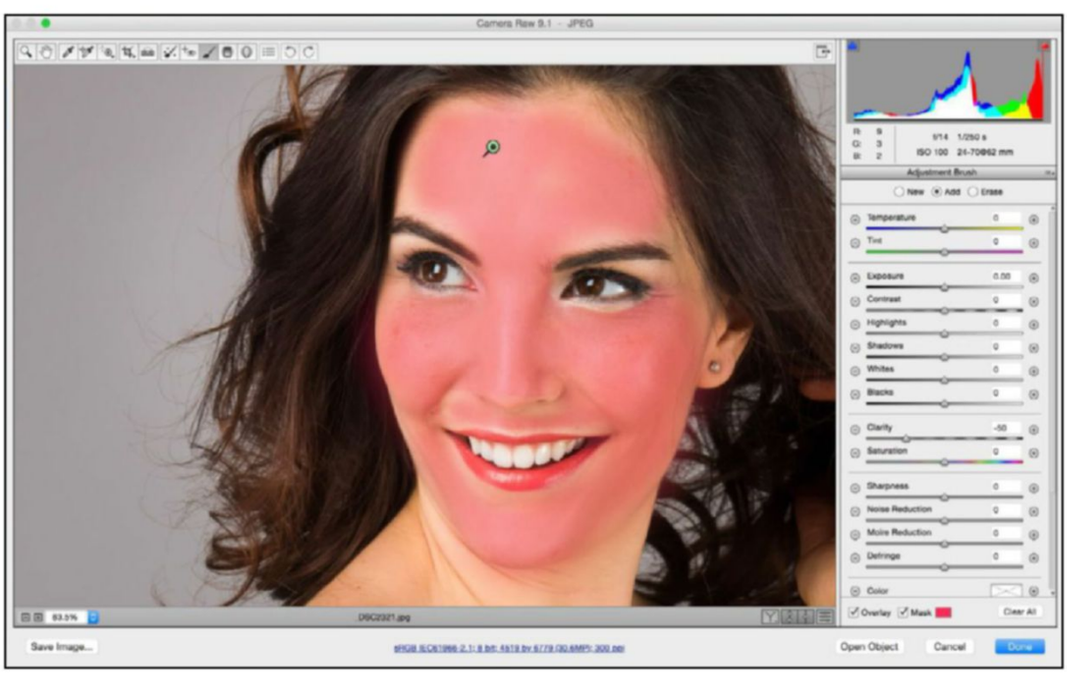

## 18 SAVE ADJUSTMENTS

If you find that you make a similar adjustment lots of times, then save time by storing the adjustment as a New Local Adjustment Setting in the flyout menu at the top right of the Adjustment Brush settings. When you want to make the same edit, choose the adjustment from the menu to quickly load up the brush with the right settings.



## 19 DOUBLE DOSE OF CLARITY

If you're a fan of crisp details, sometimes setting +100 Clarity in the Basic panel just isn't enough. If that's the case, grab the Graduated Filter tool, load it with extra Clarity, then click the space outside the image and drag away from it. This will double the amount of Clarity added.




## 20 SMOOTH SKIN

For soft, silky skin in seconds, grab the Adjustment Brush, click the minus icon next to the Clarity slider on the right to dial in negative Clarity to about -50, then paint over the skin, being careful not to go over areas of detail like the eyes and lips.



## 21 STRAIGHT GRADS

Hold down Shift to snap graduated filter lines to horizontal, vertical or at 45 degrees – helpful when you're darkening a sky.



## 22 COPY A PIN

Hold down Ctrl/Cmd+Shift+Alt and drag an adjustment pin to make a copy – ideal for copying adjustments from one eye across to the other, for instance.

## 23 QUICK VIGNETTE

Ctrl/Cmd-double click with the Radial Filter tool to add a circular blend that extends to the edges of the image. This is perfect for quickly adding vignette effects to the corners of your pictures.

## 24 RESET YOUR ADJUSTMENTS

When using the Adjustment Brush, the tool remembers the previous settings. To simultaneously load the tool with a new setting and also reset everything else, simply click the plus or minus icon next to any slider.

## 25 ADD A ROUGH BORDER WITH GRADS

For a rough-and-ready border effect that mimics the look of old film borders, load the Graduated Filter tool with -4.00 negative exposure, then drag a few short lines inwards at the edges of the frame to add dark, thick lines to the image.



## 26 FEATHER SHORTCUTS

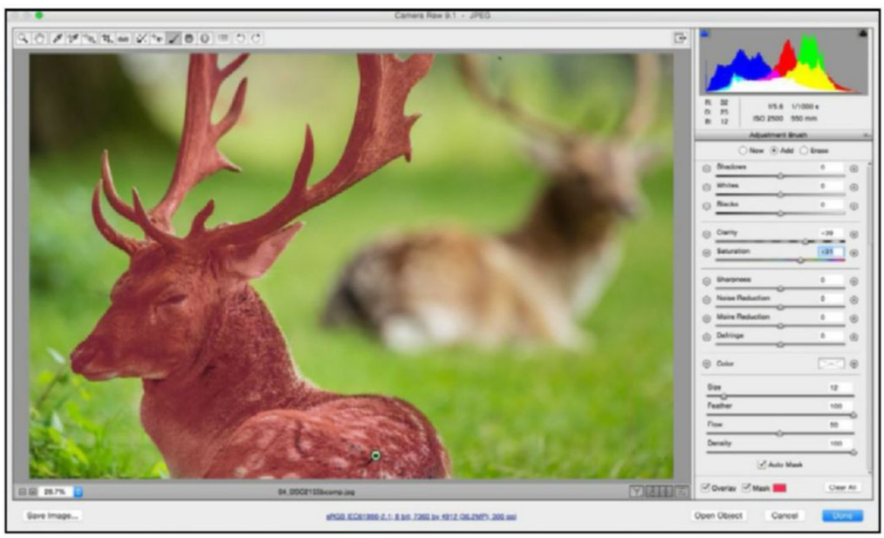
When using the Adjustment Brush, press ] or [ to resize the brush tip, and Shift+] or [ to adjust the size of the feathering around the brush tip.

## 27 SHIFT A CIRCLE

While dragging a circle with the Radial Filter tool, holding down the space bar will allow you to shift its position while you drag.

## 28 ERASE A MASK

Hold Alt while painting with the Adjustment Brush to erase parts of a mask.



## 29 AUTO-MASK

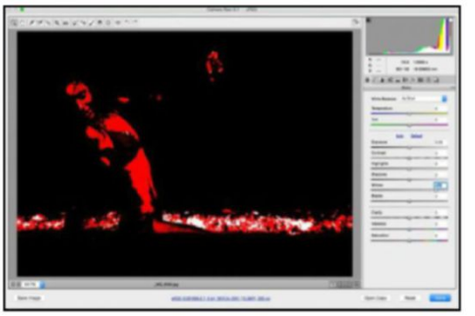
The Adjustment Brush Auto-Mask feature transforms the brush by making it seek out and snap onto colours that are similar to the first colour you click when using it, making it much easier to isolate objects and shapes for adjustment.

# SETTINGS TIPS

## 30 USE THE OLD FILL LIGHT SLIDER

If you find the Basic panel's Shadows slider just isn't lifting your shadows as much as you'd like, there's a hidden cheat you can use. Go to the Camera Calibration panel and change the Process version to 2010, then go back to the Basic panel, and you'll find the Fill Light slider. For some reason, the old Fill Light slider is more extreme than the Shadows slider that replaced it.





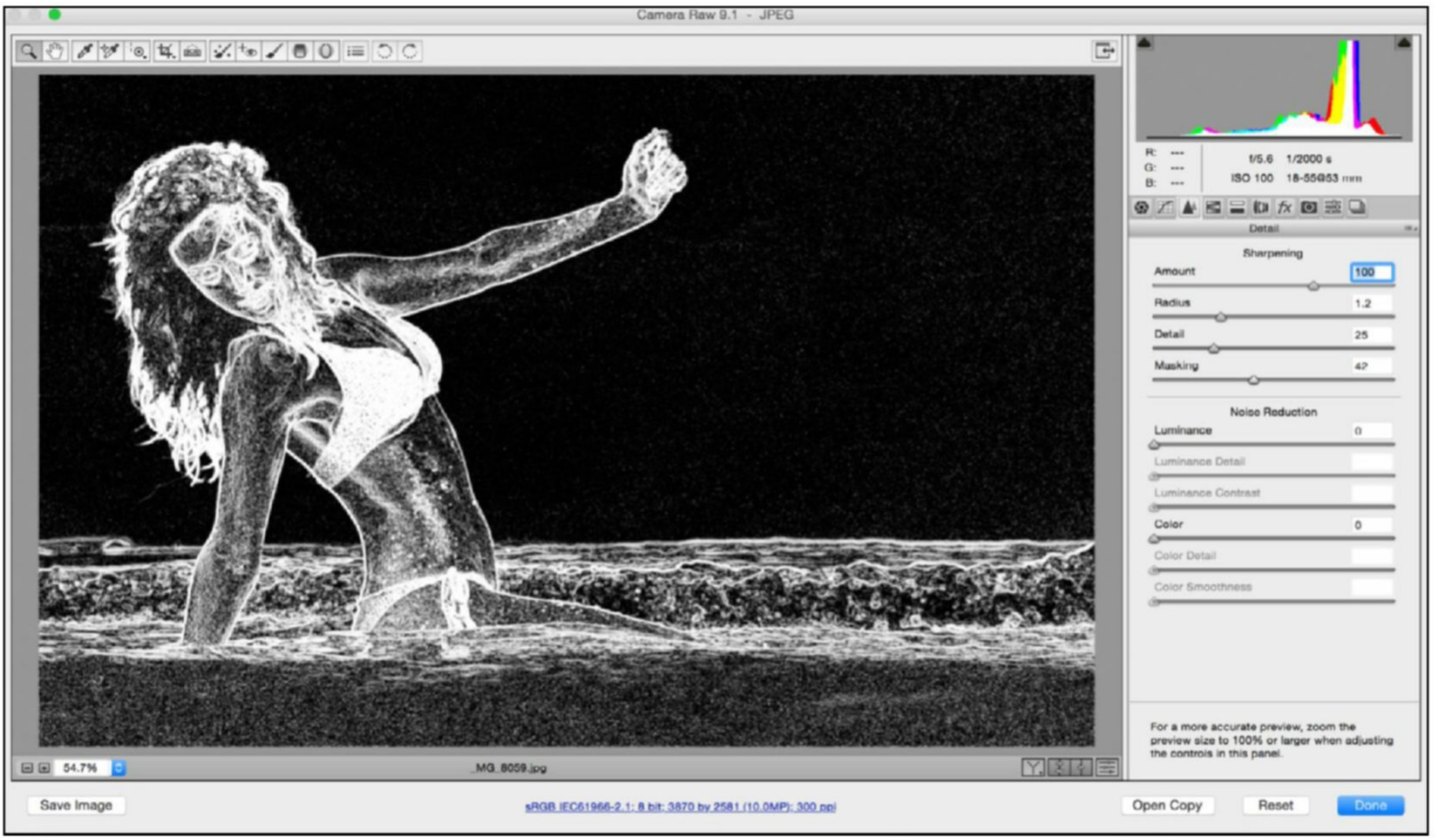
## 31 CHECK FOR CLIPPED PIXELS

Clipped pixels are either pure white or pure black, and are entirely lacking in detail, so it's usually best not to have too many in your photos. To check for clipped pixels in the highlights or shadows of an image, press either O (for over-exposed) or U (for under-exposed) to toggle the clipping warnings on and off. Alternatively, Alt-drag any of the Exposure, Highlights, Shadows, Whites or Blacks sliders for a view of the image that displays the clipped pixels very clearly.

## 32 INTERACTIVE HISTOGRAM

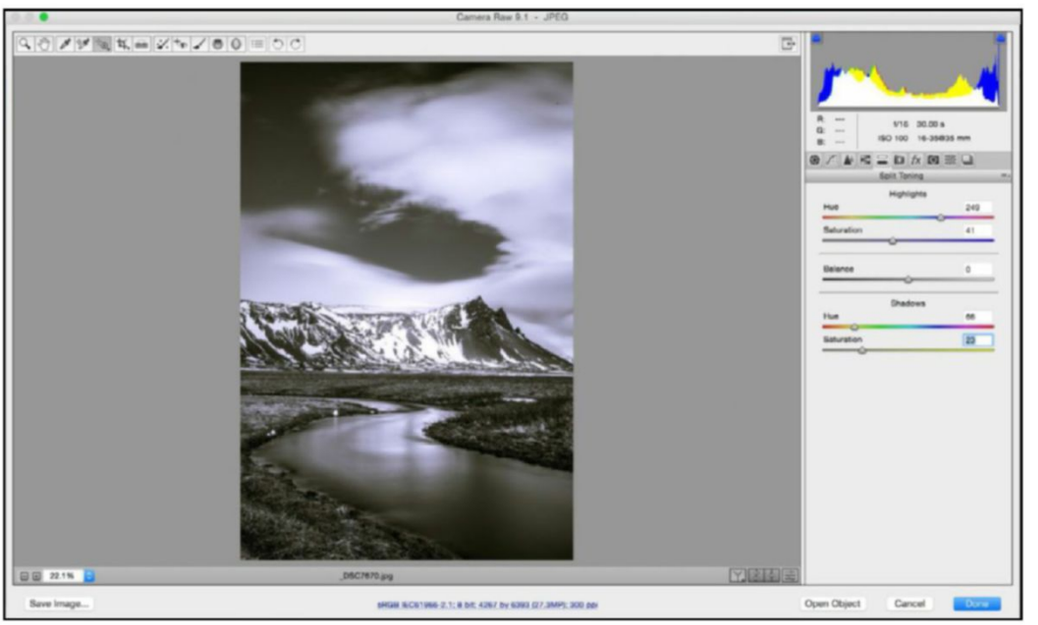
The histogram is interactive, so you can drag different parts of the graph to adjust those areas of the tonal range, from the blacks on the left to the whites on the right – useful both for fine-tuning tones, and also for understanding how histograms work.






## 33 MASK YOUR SHARPENING

Often you don't want to sharpen all of your image, just the areas of detail. After applying sharpening in the Detail panel, hold Alt and drag the Masking slider. The black areas that appear will be excluded from the sharpening effect.



## 34 PREVIEW SPLIT-TONE COLOURS

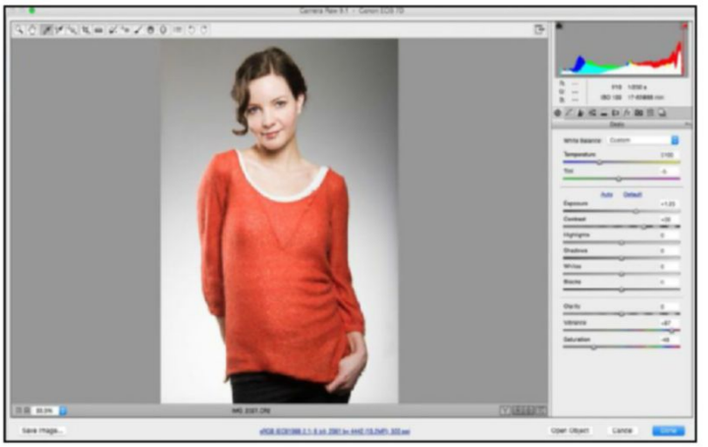
When you're using the Hue sliders in the Split Tone panel to add tints, hold Alt while dragging to preview the colour at 100%. This makes it easier to judge the colour first.

## 35 AUTOMATIC SLIDERS

Shift-double click any of the first eight Basic panel sliders to apply an auto correction to each individual setting.

## 36 TRY CAMERA PROFILES

The Camera Calibration panel can be a useful first stop in the editing process. Try different camera profiles to change the look of tones and colours.



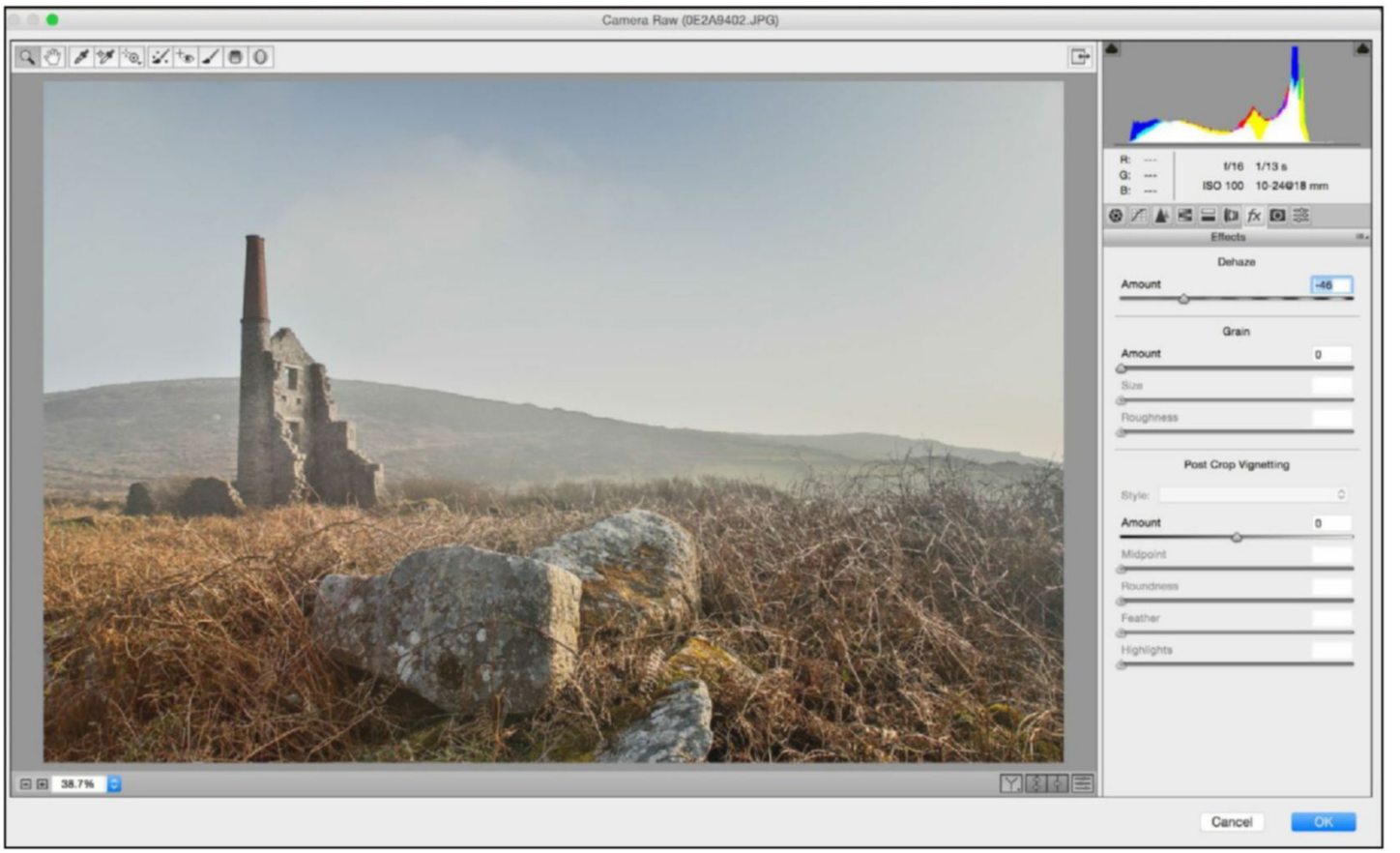
## 37 DESATURATE PORTRAITS

If you want to give your portraits a trendy desaturated look, try lowering Saturation, then increasing Vibrance in the Basic panel (or vice versa if you prefer more vibrant colours).



## 38 TWEAK MONOS WITH TEMP AND TINT

After converting an image to monochrome with the HSL/Grayscale panel, you can go back to the Basic panel and experiment with Temp and Tint to fine-tune the look of the black-and-white effect.



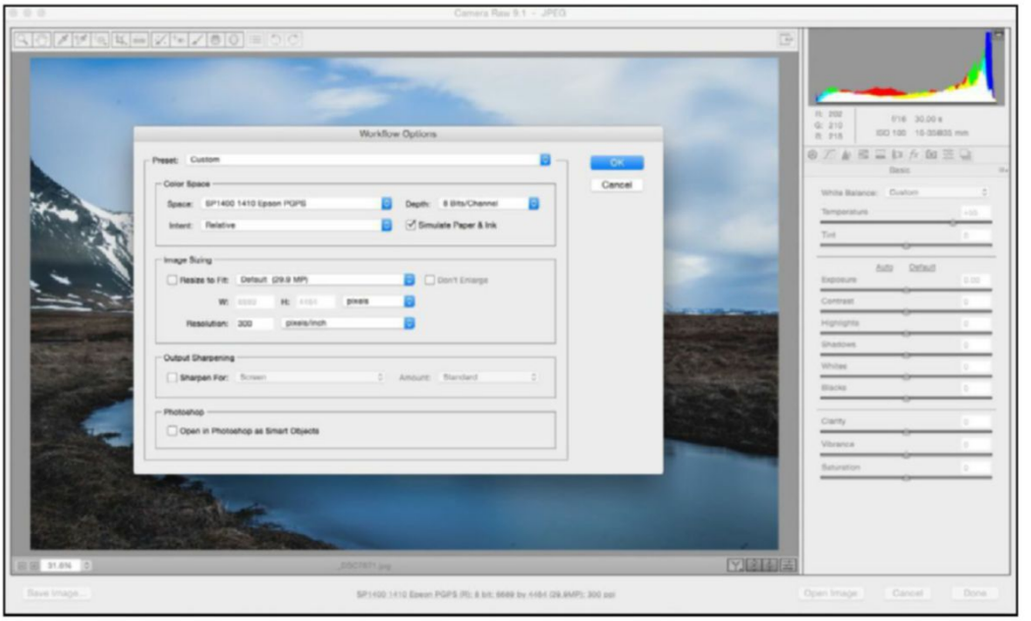

## 39 ADD HAZE TO LANDSCAPES

Found in the FX panel, the new Dehaze command enables you to cut through atmospheric haze in your landscape scenes, but it also does a great job when used in reverse to add haziness to scenes. This is useful when you want to add a dreamy atmosphere to your landscapes.

# OUTPUT TIPS

## 40 SOFT PROOF FOR PRINTING

The workflow options (accessible via the blue link below the image) not only enable you to choose a colour space, but also to soft-proof your image by displaying different ICC print profiles in the Color Space options. You can also choose to simulate the paper and ink you're using to get a more accurate idea of how your print will look.




## 41 16-BIT TIFFS

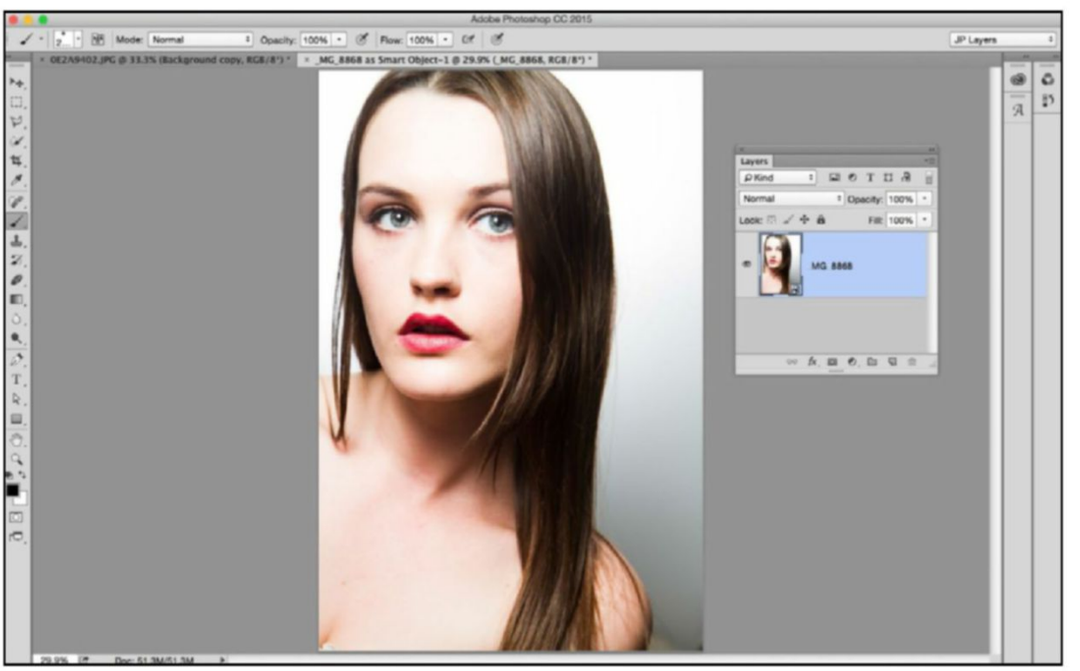
If you're planning on taking the photograph further with heavy editing in Photoshop, and you want the best possible image quality with the most colours, choose to output the file as a 16-bit TIFF in the workflow options.

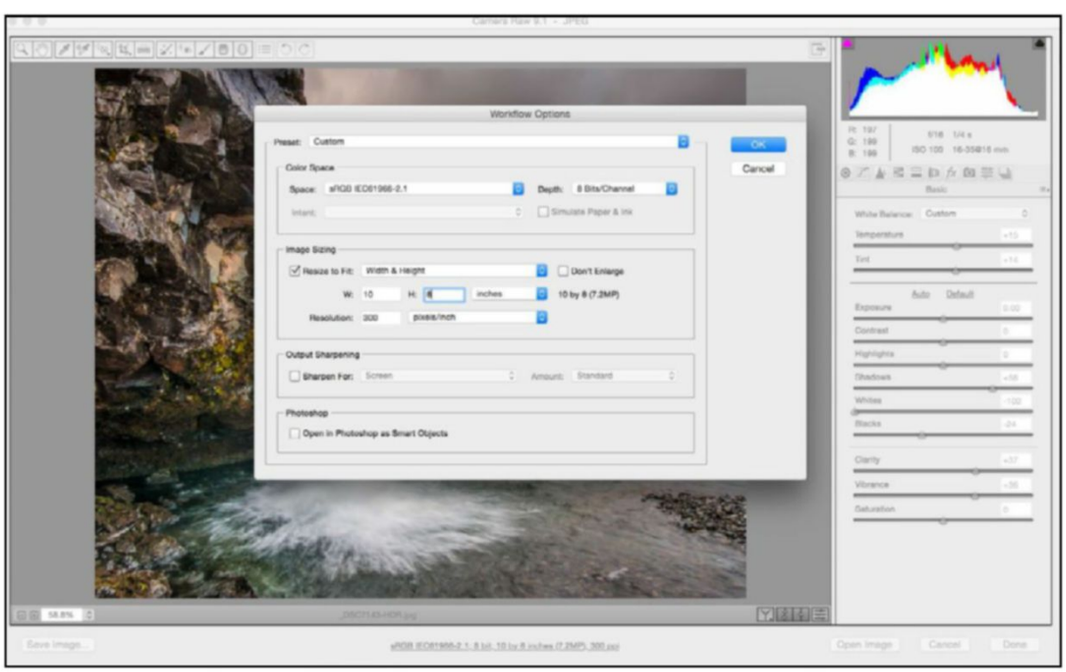
## 42 BYPASS CAMERA RAW

If you'd rather bypass Adobe Camera Raw and open a raw file straight into Photoshop, hold down Shift and double-click the file in Adobe Bridge. This will process the raw file with the default ACR settings.

## 43 OPEN AS A SMART OBJECT

To open an image in Photoshop from Camera Raw as a Smart Object, hold Shift and the Open Image button changes to Open Object. Once done, you can double-click the Smart Object layer in the Layers panel to send the image back to Adobe Camera Raw.






## 44 CROP AND PRINT

You can prepare images for printing directly from Camera Raw. Use the Crop tool to crop to specific dimensions, then go to the Image Sizing options, tick Resize to Fit and choose the width, height and resolution you want to apply.

www.photographyshow.com

# The Photography Show

18-21 MARCH 2017
THE NEC, BIRMINGHAM

## MINI-GUIDE TO THE PHOTOGRAPHY SHOW 2017



48 PAGE PREVIEW GUIDE

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# WELCOME

One of the biggest photography events in Europe, big name photographers, manufacturers, distributors, retailers, passionate pros and keen amateurs convene at the NEC in Birmingham for The Photography Show.

The Photography Show is a unique chance to try out the hottest new cameras and accessories, hear top photographers share their insights and secrets, see stunning images galleries, and snap up exclusive retailer show deals.

Plus, pay the normal rate for your first day and get the other days half price – see **www.photographyshow.com/registration** for details. What's more, verified professional photographers and trade representatives can get in free on all days, while students go free on the Tuesday (with a concessionary rate on Saturday, Sunday or Monday). See our website too for discounts on train tickets and on hotels.

We have lots of new features this year, as well as old favourites. Check out our new Drone Zone with its programme of flying displays and practical demos. Learn about the new world of 360° photography at our VR theatre. And check out our expanded programme for professional photographers.

There are hundreds of free talks to choos from, but there are some extra special events to sign up for too, such as the Pro Conference, the Beginner's Masterclass, and the Turning Pro Masterclass. Plus there are nine megastars on our special Super Stage. Book your tickets to see them now, and see you there!

## SHOW OPENING TIMES

Saturday, 18 March 2017
10:00 – 17:00

Sunday, 19 March 2017
10:00 – 17:00

Monday, 20 March 2017
10:00 – 17:00

Tuesday, 21 March 2017
10:00 – 17:00

**PLAN AHEAD**
Save money by booking in advance. Discounts end on 15 March 2017



Chris George

**Group Editor-in-Chief**
*Digital Camera, PhotoPlus, Digital Photographer, N-Photo, Photoshop Creative, Practical Photoshop, Photography Week*



## KEEP UP TO DATE WITH THE FREE APP

New details about the events at the show are being released all the time, so keep up to date by downloading the free official show app onto your smartphone or tablet. Search the Apple App Store or Android Google Play for **The Photography Show 2017**.

# The Dragon's Egg



Location: Moeraki Boulders, South Island, New Zealand

Nikon D810 | Nikkor 14-24mm @ 14mm | ISO 100 | f/14 | 10 seconds

LEE Filters SW150 Mark II Filter Holder, 0.9 ND Hard Grad + Little Stopper

As I set up on the beach, the sky began to turn red. I looked for a simple composition, and found it in the shape of this 'dragon's egg', which I placed in the lower left third. To capture the slow, receding movement of the sea, I would need a long exposure.

I used my Nikkor 14-24mm lens and LEE SW150 Mark II filter holder with a 0.9ND hard grad to help stop down the sky, which in this case was at least 4 stops brighter than my foreground. This was then combined with a Little Stopper to increase my exposure time, giving me that soft minimal long exposure look that I love.

Being able to use the SW150 system on my 14-24mm lens means I can now perfect my long-exposure effects in camera, and only have to make minimal adjustments in postproduction.



**Sarah Hatton**
www.iso100.com.au

50 years
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SW150
Mark II filter system

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# FREE TALKS Saturday, 18 March

## BEHIND THE LENS

Pros share tips and tricks,and talk about their latest projects.

**11:00 - 11:40**
Coastal visions
*Karl Holtby*

**12:00 - 12:40**
Capturing the magic
*Bella Kotak*

**13:00 - 13:40**
Expedition photography: Chasing swans from blizzards to Blighty
*Ben Cherry*

**15:00 - 15:40**
Astrophotography for everyone
*Steven Clarey*

**16:00 - 16:40**
Getting more from your camera
*Angela Nicholson*

## LIVE STAGE

*Powered and presented by* EIZO
Demonstrations from leading photographers on how to shoot a wide range of subjects.

**11:00 - 11:30**
Creative styling and live lighting demo
*Stephanie Ann Thornton*

**12:00 - 12:30**
Master dance photography
*Andrew Appleton*

**13:50 - 14:30**
Outdoor Photographer of the Year
*Presented by Outdoor Photography magazine*

**15:00 - 15:30**
An insight into food photography
*Jenny Heyworth and Catherine Connor*

**16:00 - 16:30**
Shooting the big day
*Greg Moment*

## MOBILE & SOCIAL

Learn how to use social media to promote your work – and how to use your smartphone's camera in a creative way.

**12:00 - 12:30**
How to start and maintain a successful YouTube channel
*Imogen Dyer and Mark Wilkinson*

**13:00 - 13:30**
The evolving power of photography and social media
*Levanterman*

**14:00 - 14:30**
Why you should create 'behind the scenes' content for your work
*Tommy Reynolds*

**15:00 - 15:30**
My Instagram adventures with Eric the stormtrooper
*Darryll Jones*

**16:00 - 16:30**
Creating films for social media
*Xanthe Berkeley*

## ADOBE THEATRE

Series of 30-minute sessions led by Adobe's own creative experts on how to get the most from Photoshop and Lightroom

**10:15 - 10.45**
Combining Lightroom and Photoshop CC in your retouching workflow

**11:00 - 11:30**
Making your photos look amazing with Lightroom CC

**11:45 - 12:15**
Using Lightroom Mobile in your workflow

**12:30 - 13:00**
Photoshop CC for photographers

**13:15 - 13:45**
Starting out with Lightroom CC

**14:00 - 14:30**
Contributing to Adobe Stock for photographers

**14:45 - 15:15**
Fundamental imaging techniques of post production
*David Noton*

**15:30 - 16:00**
Mastering the basics of Lightroom CC

**16:15 - 16:45**
Using Mobile apps to create and publish your work

## VIDEO THEATRE

*Presented by* Panasonic
Catch talks including Nick Driftwood's Filming in 4K and 6K photo mode, Scouting, producing, shooting and editing by Jonathan Edwards, plus insight into what drones can add to your videography?

## DRONE ZONE

See the latest in drone kit and technology, flying demonstrations from the likes of Yuneec, DJI and PowerVision, plus instruction, inspiration and tips from top UAV training provider Aerial Motion Pictures.

## VIRTUAL REALITY & 360

Insight on VR and 360° from photographers such as Nick Driftwood and Drew Gardner. Learn about new kit from Nikon, Ricoh and more, see what 360° can bring to wedding videography with Olympus visionary John Nassari and learn about editing 360° images.

*Check website for the programme of talks.*

Spaces at these free talks are limited, so if you want to make sure of a seat, get to the session early. All of the stages and theatres are around the edges of the hall (see the map on pages 24-25).



# PROPER ROADY PHOTO COLLECTION

If photography is your passion you are constantly on the lookout for the perfect moment, you want to get everything right - the scene, your subject, your camera, the right choice of lens and your camera bag. With all this in mind, we have expanded the popular Proper Roady collection with a range of camera bags. All Proper Roady Photo bags were developed to carry your loyal camera companion and accessories so that you are at the ready to capture the perfect moment.

The collection is available in various sizes and three different colours.







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# FREE TALKS Sunday, 19 March

## BEHIND THE LENS

Pros share tips and tricks,and talk about their latest projects.

**11:00 - 11:40**
Big pictures, small cameras
*Ross Grieve*

**12:00 - 12:40**
Panel discussion: Making a name in photography
*Laura Pannack, Lottie Davies, Natasha Caruana and Anna Fox*

**13:00 - 13:40**
Extraordinary images of extraordinary people
*Richard Bradbury and Paul Wilkinson*

**14:00 - 14:40**
The art of long exposure landscape photography
*John Miskelly*

**15:00 -15:40**
Turn on the light, your passion is calling: a creative's guide to authenticity
*Clare Louise*

**16:00 - 16:40**
Telling stories and making a difference
*Luke Massey*

## LIVE STAGE

*Powered and presented by* BZO
Demonstrations from leading photographers on how to shoot a wide range of subjects.

**11:00 - 11:30**
Multiple looks with minimal kit
*Tom Barnes*

**12:00 - 12:30**
The freestyler: capturing sports action and movement

**13:00 - 13:30**
The secret to relaxed children's portraits
*Saraya Cortaville*

**15:00 - 15:30**
Five minutes in Photoshop
*Angela Nicholson*

**16:00 - 16:30**
Lighten up
*Gavin Hoey*

## MOBILE & SOCIAL

Learn how to use social media to promote your work – and how to use your smartphone's camera in a creative way.

**12:00 - 12:30**
It's not all about the numbers
*Bert Stephani*

**13:00 - 13:30**
Seeing differently: alternative travel photography
*Martina Govindraj*

**14:00 - 14:30**
My Instagram adventures with Eric the stormtrooper
*Darryll Jones*

**15:00 - 15:30**
Modern social media in your business
*Kevin Mullins*

**16:00 - 16:30**
Visual storytelling through iPhoneography
*Sara Tasker*

## ADOBE THEATRE

Series of 30-minute sessions led by Adobe's own creative experts on how to get the most from Photoshop and Lightroom

**10:15 - 10.45**
Combining Lightroom and Photoshop CC in your retouching workflow

**11:00 - 11:30**
Making your photos look amazing with Lightroom CC

**11:45 - 12:15**
Using Lightroom Mobile in your workflow

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Photoshop CC for photographers

**13:15 - 13:45**
Contributing to Adobe Stock for photographers

**14:00 - 14:30**
Using Mobile apps to create and publish your work

**14:45 - 15:15**
Fundamental imaging techniques of post production
*David Noton*

**15:30 - 16:00**
Mastering the basics of Lightroom CC

**16:15 - 16:45**
Start out with Lightroom CC

## VIDEO THEATRE

*Presented by* Panasonic
Learn about subjects such as underwater filming, film making with CSCs, and making creative short films.

## DRONE ZONE

See the latest in drone kit and technology, flying demonstrations from the likes of Yuneec, DJI and PowerVision, plus instruction, inspiration and tips from top UAV training provider Aerial Motion Pictures.

## VIRTUAL REALITY & 360

Insight on VR and 360° from photographers such as Nick Driftwood and Drew Gardner. Learn about new kit from Nikon, Ricoh and more, see what 360° can bring to wedding videography with Olympus visionary John Nassari and learn about editing 360° images.

*Check website for the programme of talks.*

Many of our exhibitors have free talks and demonstations on their stands too. Check on our website, or on the free app (see p3) to get the latest details of everything that's going on.

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# FREE TALKS Monday, 20 March

## BEHIND THE LENS

Pros share tips and tricks,and talk about their latest projects.

**11:00 - 11:40**
Landscape's reward
*Charlie Waite*

**12:00 - 12:40**
The Folklore Project: recording Britain's stories
*Hugh Hastings*

**13:00 - 13:40**
The DIY photographer
*Jason Parnell-Brookes from N-Photo magazine*

**14:00 - 14:40**
Shoot more, edit less.
*Ryan Welch*

**15:00 - 15:40**
In conversation with Lisa Barnard
*Lisa Barnard and Jean Wainwright*

**16:00 - 16:40**
Bringing architecture to life
*Tobi 'Tobishinobi' Shonibare*

## LIVE STAGE

*Powered and presented by* EIZO
Demonstrations from leading photographers on how to shoot a wide range of subjects.

**11:00 - 11:30**
Creativity and safety in newborn photography
*Melanie East*

**12:00 - 12:30**
The art of flattery
*Stephen Perry*

**13:00 - 13:30**
The importance of the engagement shoot
*Brett Florens*

**14:00 - 14:30**
Live catwalk show
*Jane Kelly*

**15:00 - 15:30**
Shooting creative portraits using colour gels
*Rossella Vanon*

**16:00 - 16:45**
Joe McNally lighting masterclass
*Joe McNally*

## MOBILE & SOCIAL

Learn how to use social media to promote your work – and how to use your smartphone's camera in a creative way.

**12:00 - 12:30**
Instagram: your platform, your style, and your journey to pro
*Tobi 'Tobishinobi' Shonibare*

**13:00 - 13:30**
Beyond the lens: embracing the future with mobile photography
*Mark Tipping*

**14:00 - 14:30**
How to build your Instagram profile
*Zoe Timmers*

**15:00 - 15:30**
Modern social media in your business
*Kevin Mullins*

**16:00 - 16:30**
Beyond the lens: embracing the future with mobile photography
*Mark Tipping*

## ADOBE THEATRE

Series of 30-minute sessions led by Adobe's own creative experts on how to get the most from Photoshop and Lightroom

**10:15 - 10.45**
Combining Lightroom and Photoshop CC in your retouching workflow

**11:00 - 11:30**
Using Mobile apps to create and publish your work

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Starting out with Lightroom CC

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Photoshop CC for photographers

**13:15 - 13:45**
Using Lightroom Mobile in your workflow

**14:00 - 14:30**
Mastering the basics of Lightroom CC

**14:45 - 15:15**
Fundamental imaging techniques of post production
*David Noton*

**15:30 - 16:00**
Making your photos look amazing with Lightroom CC

**16:15 - 16:45**
Contributing to Adobe Stock for Photographers

## VIDEO THEATRE

*Presented by* Panasonic
Hear from Steven Clarey about mixing stills and video work, and how taking to the air can improve your business from Brent Kirkman. James Vellacott shares his experience of working with directors, producers and DoPs, and where video trends will go next

## DRONE ZONE

See the latest in drone kit and technology, flying demonstrations from the likes of Yuneec, DJI and PowerVision, plus instruction, inspiration and tips from top UAV training provider Aerial Motion Pictures.

## VIRTUAL REALITY & 360

Insight on VR and 360° from photographers such as Nick Driftwood and Drew Gardner. Learn about new kit from Nikon, Ricoh and more, see what 360° can bring to wedding videography with Olympus visionary John Nassari and learn about editing 360° images.

*Check website for the programme of talks.*

**Eating in**
The Food Village will be open in Hall 5 throughout the event. In addition, numerous bars, restaurants and seating areas are situated around the NEC.

# FREE TALKS Tuesday, 21 March

## BEHIND THE LENS

Pros share tips and tricks, talk about their latest projects, and debate hot topics in photography

**11:00 - 11:40**
Bringing architecture to life
*Tobi 'Tobishinobi' Shonibare*

**12:00 - 12:40**
Fashion, floods and circus
*Matilda Temperley*

**13:00 - 13:40**
Forgotten locations and hidden worlds
*Rebecca Bathory*

**14:00 - 14:40**
Close-up and macro photography
*John Humphrey*

**15:00 - 15:40**
You can shoot stock too
*Dave Wall*

**16:00 - 16:40**
Unscripted moments: discreet street photography
*Matt Hart*

## LIVE STAGE

*Powered and presented by* EIZO

Demonstrations from leading photographers on how to shoot a wide range of subjects.

**11:00 - 11:30**
Directing your portraits
*Rory Lewis*

**13:00 - 13:30**
Charity picture raffle draw, see page 46.
*Disabled Photographers' Society*

**14:00 - 14:45**
Final: 60 Seconds to Change Your Life competition (winner announcement)
*Led by Training by Lumiere*

**15:00 - 15:30**
Photograph like a thief!
*Glyn Dewis*

**16:00 - 16:30**
Painting with light
*Claire Harper*

## MOBILE & SOCIAL

Learn how to use social media to promote your work – and how to use your smartphone's camera in a creative way.

**12:00 - 12:30**
Using iPhoneography as a creative tool
*Philippa Stanton*

**14:00 - 14:30**
Boost your business with Facebook and Instagram
*Jenny Johnston*

**15:00 - 15:30**
Using iPhoneography as a creative tool
*Philippa Stanton*

**16:00 - 16:30**
Social media isn't perfect
*Glashier*

## ADOBE THEATRE

Series of 30-minute sessions led by Adobe's own creative experts on how to get the most from Photoshop and Lightroom

**10:15 - 10.45**
Combining Lightroom and Photoshop CC in your retouching workflow

**11:00 - 11:30**
Using Mobile apps to create and publish your work

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**14:45 - 15:15**
Fundamental imaging techniques of post production
*David Noton*

**15:30 - 16:00**
Making your photos look amazing with Lightroom CC

**16:15 - 16:45**
Contributing to Adobe Stock for photographers

## VIDEO THEATRE

*Presented by* Panasonic

Speakers include music video maker Glashier and drone experts Aerial Motion Pictures. Learn about the transition from stills to video with Steven Clarey

## DRONE ZONE

See the latest in drone kit and technology, flying demonstrations from the likes of Yuneec, DJI and PowerVision, plus instruction, inspiration and tips from top UAV training provider Aerial Motion Pictures.

## VIRTUAL REALITY & 360

Insight on VR and 360° photographers such as Nick Driftwood and Drew Gardner. Learn about new kit from Nikon, Ricoh and more, see what 360° can bring to wedding videography with Olympus visionary John Nassari, and learn about editing 360° images.

*Check website for the programme of talks.*

**Eating out**
For those who stay in the area for a little longer, there's a selection of restaurants to choose from in Resorts World, which is a five minute walk from Hall 5.

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Mick Jagger, Los Angeles 1992 © Albert Watson

# SUPER STAGE

**Albert Watson, Frans Lanting and David Alan Harvey head the list of world-class photographers speaking on the Super Stage at The Photography Show**

Presented by zenfolio



© Louis Cole

## LOUIS COLE

brought to you by SONY

***Best known for:* daily video blogs recounting his adventures**



Louis Cole has a huge social media community around his adventures as 'FunForLouis', with over 1.4 million Instagram followers and 1.8 million subscribers to his YouTube channel.

In this session, Louis will explore the big part that photography plays in building up a social media community, describe his journey to becoming a social media influencer, and give insight into how all of the elements work together, as well as why social media can be important for photographers.

**Saturday, 18 March 11:00 - 12:00**

Tickets to see these living legends of photography cost £10 per session (in addition to having an entry ticket to The Photography Show itself). Guarantee your seat by booking online at photographyshow.com



Kate Moss, Marrakesh, 1993 © Albert Watson

## ALBERT WATSON

***Best known for:* creating some of the photo world's most well-known, iconic images**



Born blind in one eye, 74-year-old Scottish shooter Albert Watson is world famous for his art, fashion, landscape and commercial photography, producing 100 *Vogue* covers and 40 covers for *Rolling Stone*, including an iconic double exposure portrait of Mick Jagger and a leopard for the 25th anniversary edition of the magazine (pictured opposite).

This is a rare chance to listen to one of the most prolific, versatile and sought-after photographers of our time as he looks back on a lifetime of producing the clean and graphic images that have made him into a modern-day icon. Albert's extraordinary ability to apply his craft to every genre is truly inspiring.

His most celebrated images – of Alfred Hitchcock holding a dead goose, a teenage Kate Moss (shown above), Michael Jackson, Steve Jobs and more – are sure to draw in the crowds and make this a once-in-a-lifetime experience.

**Saturday, 18 March 13:00 - 14:00**
**Sunday, 19 March 11:00 - 12:00**



Grenada, 1979 © Alex Webb/Magnum Photos

## ALEX WEBB

brought to you by MAGNUM PHOTOS

***Best known for:* popularising colour street photography**



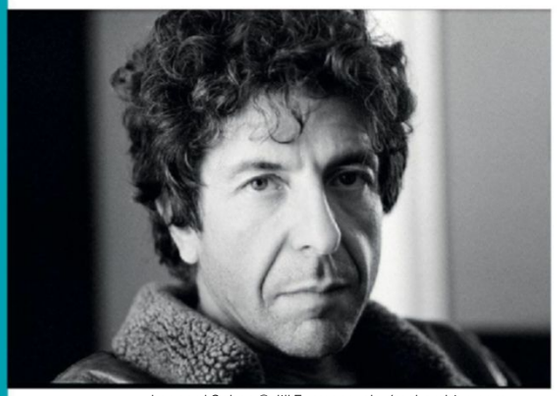
Photojournalist Alex Webb uses strong colours, light and emotion to capture the beautifully complex images. His work could sit next to Henri Cartier-Bresson's 'The Decisive Moment' in the dictionary.

Although the Magnum Photos photographer is best known for his emotive, colourful images that allow a glimpse of Latin America's chaotic street life – including in Cuba, Haiti, Mexico – he was first inspired by Cartier-Bresson, and started out shooting in black and white.

Aged only 24, and still shooting only in mono, he became a Magnum nominee. That was in 1976, and he became a full member of the famous agency only three years later. His move over to shooting in colour and subsequent work has inspired a new generation of colour-shooting documentary photographers.

In his 40-year career, Alex has published seven photography books so far, and still continues to be one of the most respected photojournalists of our time.

**Saturday, 18 March 15:00 - 16:00**



Leonard Cohen © Jill Furmanovsky/rockarchive.com



Orang-utan © Frans Lanting/lanting.com



David Bowie © Clive Arrowsmith

## JILL FURMANOVSKY

***Best known for:* being the queen of rock 'n' roll photography**



In the mid 60s, Jill Furmanovsky landed in London, relocating with her parents from Zimbabwe. It was a move that shaped the rest of the rock photographer's life: at 11, Jill became a member of the Beatles fan club. Her first rock shot was on a Kodak Instamatic, of Paul McCartney standing outside his house.

In 1972, after only two weeks training in photography at the Central School of Art and Design, Jill marched her way into the press pit at a Yes concert, with a borrowed camera in hand. The move earned her a place as the official (unpaid) photographer at a premier London rock venue, The Rainbow Theatre.

Jill has gone on to become an iconic rock photographer who we celebrate today, and the founder of Rockarchive, capturing the biggest names in the industry: Led Zeppelin, Bob Marley, Pink Floyd, Bob Dylan, The Police, Oasis and many more. Hear one of the world's leading rock photographers lift the lid on a lifetime at the forefront of rock and roll.

**Sunday, 19 March 13:00 - 14:00**

## FRANS LANTING

***Best known for:* setting the standard for modern wildlife photography**



Over four decades, Frans Lanting has worked closely with the World Wildlife Fund, been published in *National Geographic* and *Life* and influenced the industry and the world.

Frans has proved that wildlife photography is not just about executing sharply focused animal portraits with plenty of bokeh. He looks at shooting his wild subjects as a canvas just waiting to be painted. He understands that to fully connect with the subject, we need to find new ways of describing the 'essence' of them. He has rewritten the laws that defined the prevalent style of the day, and much of what we have seen since reflects his influence in the field of wildlife photography.

Don't miss the chance to hear this activist with a camera and pioneer in the field of wildlife photography. This talk is based around Frans's recent 'Dialogues with Nature' exhibition, a major retrospective showcasing images from five of his signature projects produced over 40 years.

**Sunday, 19 March 15:00 - 16:00**
**Monday, 20 March 11:00 - 12:00**

## CLIVE ARROWSMITH

***Best known for:* his celebrated shots of stars and celebrities from the 1970s onwards**



Clive Arrowsmith's body of work is extensive – spanning the genres of fashion, advertising, music and celebrity portraits, from Paul McCartney to Prince Charles, and De Beers to Yves Saint Laurent.

Clive will describe the path he takes to produce images that draw in the viewer; how he subtly directs portrait subjects and choreographs his models on fashion shoots, accounting for every detail.

This talk will be fast-paced and fun, with many behind the scenes tales of his celebrity adventures.

**Monday, 20 March 13:00 - 14:00**

The Super Stage offers you a unique opportunity to hear some of the best-known photographers on the planet. Tickets sell out quickly, so we strongly advise you to book in advance to avoid disappointment.



Barack Obama III, 2012 © Nadav Kander

## NADAV KANDER

(in discussion with William A Ewing)

***Best known for:* iconic portraits of Barack Obama and Donald Trump**



Multi-award winning photographer Nadav Kander is the man who shot Donald Trump! The much-discussed *Time* magazine cover of 2016 was the latest in Nadav's impressive portfolio of portraiture featuring world-famous names from Barack Obama to Prince Charles. But Nadav is as well known for his landscapes as he is for his portraits, and has won numerous accolades for both – including a Prix Pictet for his landscapes on the Yangtze River and a World Press Photo award.

He made headlines with his portrait series 'Obama's People', commissioned by *The New York Times Magazine* to coincide with President Obama's inauguration in 2009. Kander's 52 portraits made up the largest single photo story that the veteran publication has ever published in a single issue.

This interview, led by curator Bill Ewing, offers visitors an opportunity to get insight into Nadav's unique career and approach.

**Monday, 20 March 15:00 - 16:00**



Cuba, 1998 © David Alan Harvey/Magnum Photos

## DAVID ALAN HARVEY

brought to you by MAGNUM PHOTOS

***Best known for:* his documentary images for National Geographic**



One of the most well-respected photojournalists of our time, and now a Magnum Photos great, David Alan Harvey was an early adopter of photography. Aged 11, he bought a Leica with his newspaper round savings and began shooting photographs of his family and his neighbours. That was in 1956.

In 1967, he published his first book *Tell it like it is*, documenting the lives of a black family living in Virginia. He went on to shoot 40 photo essays for *National Geographic*, covering social and cultural issues across the globe and varied subjects including the Berlin Wall, native Americans and French teenagers.

David joined the Magnum photo agency as a full-time member in 1997 and launched the award-winning *Burn* magazine in 2008, which showcases emerging new talented photographers.

Don't miss this chance to hear the thoughts and insights of a true photography hero in this talk, entitled 'Shoot what it feels like'.

**Tuesday, 21 March 13:00 - 14:00**



Sujit Kumar (The Chicken Boy), Fiji , 2015 © Julia Fullerton-Batten

## JULIA FULLERTON-BATTEN

***Best known for:* her provocative photo essays on the growing pains of teenage girls**



An acclaimed fine art photographer, Julia Fullerton-Batten started her photo career in 2001 and rapidly developed her reputation as one of Europe's leading young photographers. Julia's use of unusual locations, highly creative settings and street-cast models, accented with cinematic lighting, are hallmarks of her very distinctive and enthralling style of photography.

The foundation of her success was her 2005 project 'Teenage Stories' – an evocative narrative of the tough transition of a teenage girl into womanhood. This and her sequel projects portray the difficult stages and life situations of female adolescence. Julia admits to a pronounced semi-autobiographical influence in much of her earlier work, often falling back on recollections of her own early and teenage years.

On the Super Stage, Julia will delve further into her latest two projects – 2015's 'Feral Children' and 2016's 'The Act' – exploring their controversial subject matter.

**Tuesday, 21 March 15:00 - 16:00**



# MASTER CLASSES

As well as the many free features and talks available at the show, we have several masterclasses suited to all levels that are well worth signing up for...

## BEGINNER'S MASTERCLASS

**Saturday, 18 March and Sunday, 19 March, Toute Suite £10**

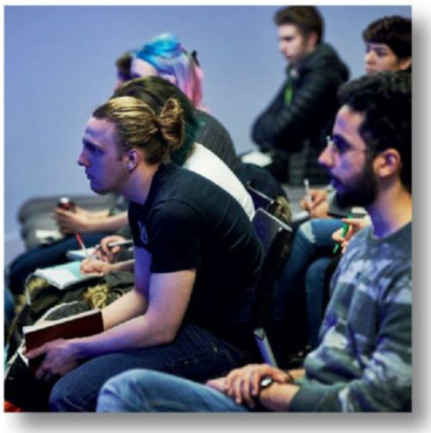
Start your photography journey by learning some essential lessons from the experts. There's a charge of £10 for this four-part programme, in addition to the show entry fee; choose Saturday or Sunday morning. The Toute Suite is located just outside Hall 5 (see map on p19).

**10:30 - 11:05**
**Choosing the right camera**
A look at what camera is best for you, including a run down of the key features and what you do and don't need
*Angela Nicholson*

**11:05 - 11:40**
**Choosing a lens**
Learn the basics of choosing a lens to suit you, including what different focal lengths and apertures are for
*Damian McGillicuddy*

**11:50 - 12:25**
**Getting to grips with imaging software**
A starter session on imaging software, to help you to understand the basic tools and more advanced techniques
*Amy Watkins*

**12:25 - 13:00**
**Troubleshooting your photography: common problems and how to solve them**
Key elements of focus and exposure explored
*Nina Bailey*





# TURNING PRO MASTERCLASS

## Saturday, 18 March and Sunday, 19 March, Toute Suite £10

Looking to make the jump from enthusiast to professional? This half-day masterclass will help you to understand the benefits of going pro and what to watch out for. There's a small charge of £10 for this afternoon programme, which is held in the Toute Suite located just outside Hall 5 (see p19).

**14:00 - 14:35**
**Making the transition from enthusiast to pro**
The first steps of setting yourself up as a pro, and how to market yourself and your work to attract clients
*Amit and Naroop*

**14:35 - 15:10**
**Software – the ultimate camera accessory**
How to choose the right software for your business, including what features are available and what you need
*David Grover*

**15:15 - 15:50**
**How to market yourself effectively on social media**
Dos and don'ts for marketing yourself as a photographer on social media, and the nuts and bolts of SEO
*Charlie Giles*

**15:50 - 16:20**
**How a drone could improve your business**
How using drones could increase your client base, add value and drive profit to your business
*Matt Williams*

**16:20 - 16:45**
**Tips for your first year as a pro**
Three professional photographers discuss how they survived and thrived through their first year in business
*Bella Kotak, Rory Lewis, John Nassari*

# STUDENT CONFERENCE

## Tuesday, 21 March, Toute Suite £5

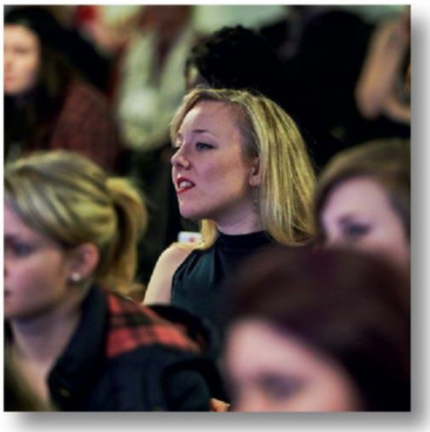
Students get in free to The Photography Show on the Tuesday... but why not make even more of your trip by signing up for the afternoon series of inspirational talks tailored specifically for students? There's a small charge of £5 for this packed Tuesday afternoon programme.

**13:30 - 14:10**
**Student to pro – life in the photography business**
Kate discusses her experience of building a successful photography business, plus top tips for starting as a pro
*Kate Hopewell-Smith*

**14:30 - 15:10**
**The right direction:**
**Running your shoot and working with a team**
A practical demonstration of a studio photoshoot, run by experienced professionals, showing you how to work effectively as a team and giving you useful advice
*Monica Montalvo, Stephanie Thornton and Steve Howdle*

**15:30 - 16:10**
**Panel discussion: Turning daydreams into dayjobs**
Offering insight into why they do what they do, our panel of professionals give insight into their first years in business, sharing their challenges and successes
*Ryan Welch, Jacob McCarthy, Matilda Temperley, Tom Mason and Nicole Gomes*

**16:15 - 16:30**
**CLOSING KEYNOTE: David Alan Harvey**
Acclaimed Magnum photojournalist David Alan Harvey gives an insight into his long career working for *National Geographic* and other leading publications
*David Alan Harvey*








# JUST FOR PROS

Working photographers have a special place at The Photography Show – and this year there is even more going on just for pros – over all four days of the event

*Pro entry to the show is free, subject to validation*

**VISIT THE WEBSITE AND FILTER THE PROGRAMMES BY 'PRO LEVEL' TO SEE WHAT'S ON FOR PROS**

## PRO LOUNGE

Come along to the Pro Networking Lounge where you can grab a drink, catch up with colleagues and exchange ideas with like-minded industry professionals in a tranquil environment.

## PRO HAPPY HOURS

Our pro Happy Hours will give you the chance to relax after a big day at the show between 16:00 and 17:00 on Saturday and Sunday.

## PRO LOUNGE LIVE

A series of sessions taking place at the weekend will focus on some of the more specific challenges faced by professional photographers.

## PRO DRINKS RECEPTION

Don't miss our professionals drinks reception on Monday evening, featuring amusing anecdotes and advice from speakers.

## ENHANCE YOUR SKILLS

The Behind the Lens Theatre and Live Stage return, featuring tutorials and practical demos that focus on a range of genres and techniques, plus debates tailored to the pro. Our panel discussion on making a name for yourself in photography is sure to interest.

## EXPAND YOUR SERVICES

Discover all of the skills you need to capture dynamic footage on camera and to integrate moving images into what you offer your clients in the Video Theatre and Drone Zone.

## DISCOVER NEW TECHNOLOGY

Our brand new 360 & Virtual Reality Stage will showcase the most talked about technology out there and reveal how it can be used in a professional sense now, and in the future.

## PRO CONFERENCE

In-depth business advice, from pricing your photography and valuing yourself, to ways in which you can attract new clients. See the listings opposite for a breakdown of the sessions on offer.

# PRO CONFERENCE

A conference offering in-depth commercial advice and creative ideas to drive your business forward. Book one of the morning sessions for £10, or sign up for both for £15



## Monday, 20 March, Toute Suite

**10:15 - 10:30**
**OPENING KEYNOTE: Clive Arrowsmith**
*Clive Arrowsmith*

**10:30 - 11:05**
**Marketing and finding new business**
How to find the right market, research leads and make sure that you stand out from the crowd
*Hat Margolies*

**11:05 - 11:40**
**Pricing your photography and valuing yourself**
What are you and your work worth? Working to a day rate vs working to a budget explored
*Nick Dunmur*

**11:50 - 12:25**
**When calamity strikes**
Plan for unexpected events and ensure that you have the right insurance cover for your business
*Clare Sugden*

**12:25 - 13:00**
**What you need to know BEFORE you fly your drone**
Discover the regulations you need to follow and how to get licensed to use your drone for photography
*Matt Williams*

## Tuesday, 21 March, Toute Suite

**10:30 - 11:05**
**Personal projects attract new clients**
Why keeping your creativity alive is important to attract new business, and tips on finding compelling ideas
*Tom Oldham*

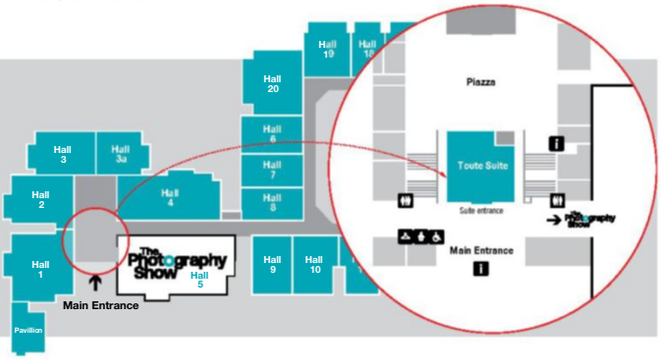
**11:05 - 11:40**
**Creating movie-style drama and storytelling in stills**
Stand out from the crowd, create atmospheric images and tell stories with camera angles and composition
*Glashier*

**11:50 - 12:25**
**Become an editorial superstar**
How to pitch ideas to magazines and newspapers and become a successful editorial photographer
*Matthew Fearn*

**12:25 - 13:00**
**A new angle on sports photography**
How to use robotic cameras to get your camera in places humans can't go, to take unique sports shots
*Bob Martin*

## THE TOUTE SUITE

The Photography Show is held in the largest of the National Exhibition Centre's halls – the 25,000m² Hall 5. However, our Masterclasses and Conferences are all held in the Toute Suite which is found in the Piazza entrance area just outside Hall 5.









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The Photography Show 18-21 MARCH 2017 THE NEC, BIRMINGHAM

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COMPLETE A-Z LISTINGS

# Who's at... The Photography Show

18-21 MARCH 2017
THE NEC, BIRMINGHAM

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**ABRAHAM ALBUMS** A 30
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**ADAPTALUX** C 137
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Camera-repair specialists renowned for infra-red sensor conversions.

**AERIAL MOTION PICTURES** C 144
**www.aerialmotionpictures.co.uk**
Drone specialists with a CAA-approved independent training school and rental facility.

**AFFINITY** C 32
**www.affinity.serif.com**
Developers of Affinity Photo image editing program, which is available for Windows, as well as for Mac.

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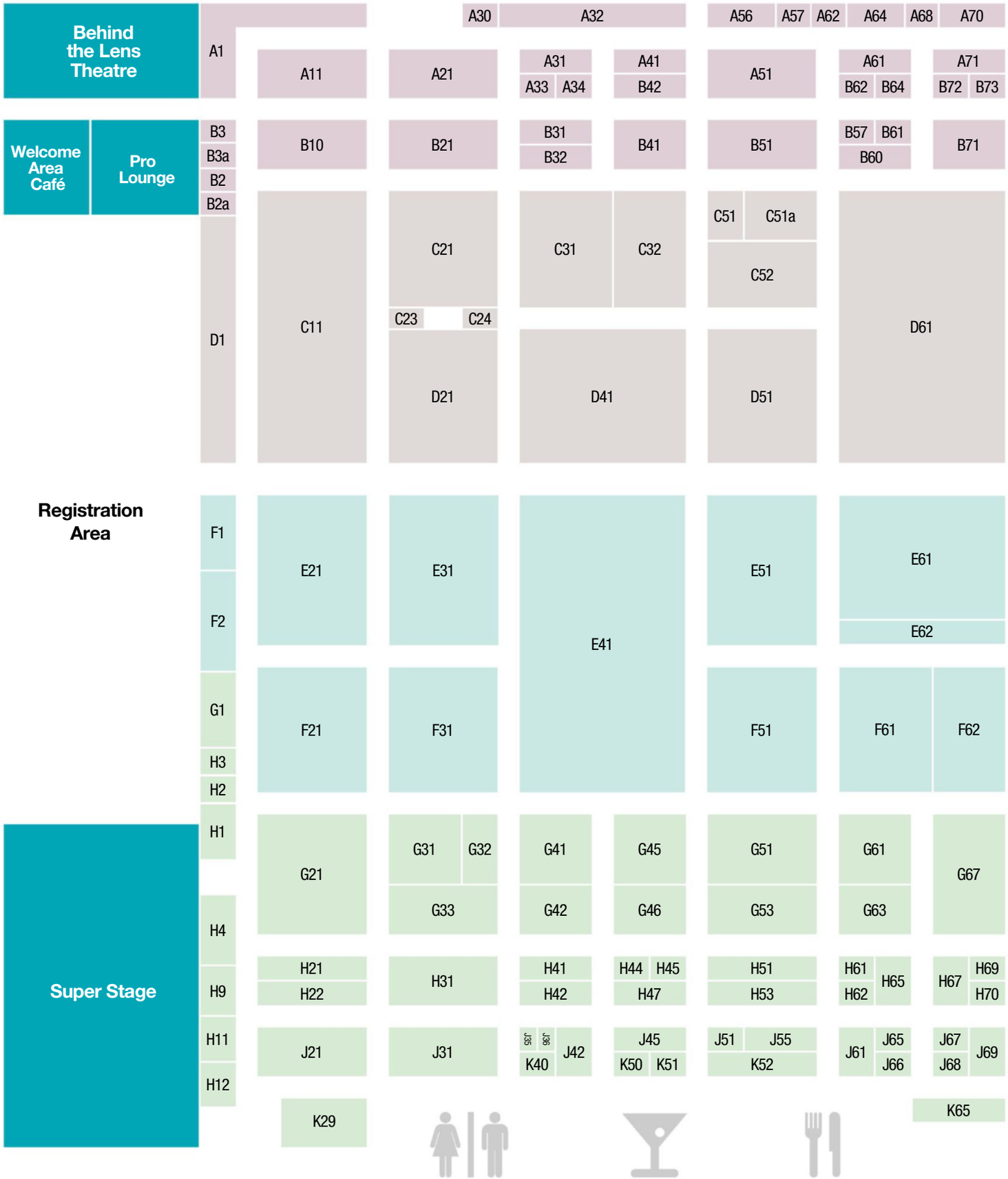
WHAT'S HOT

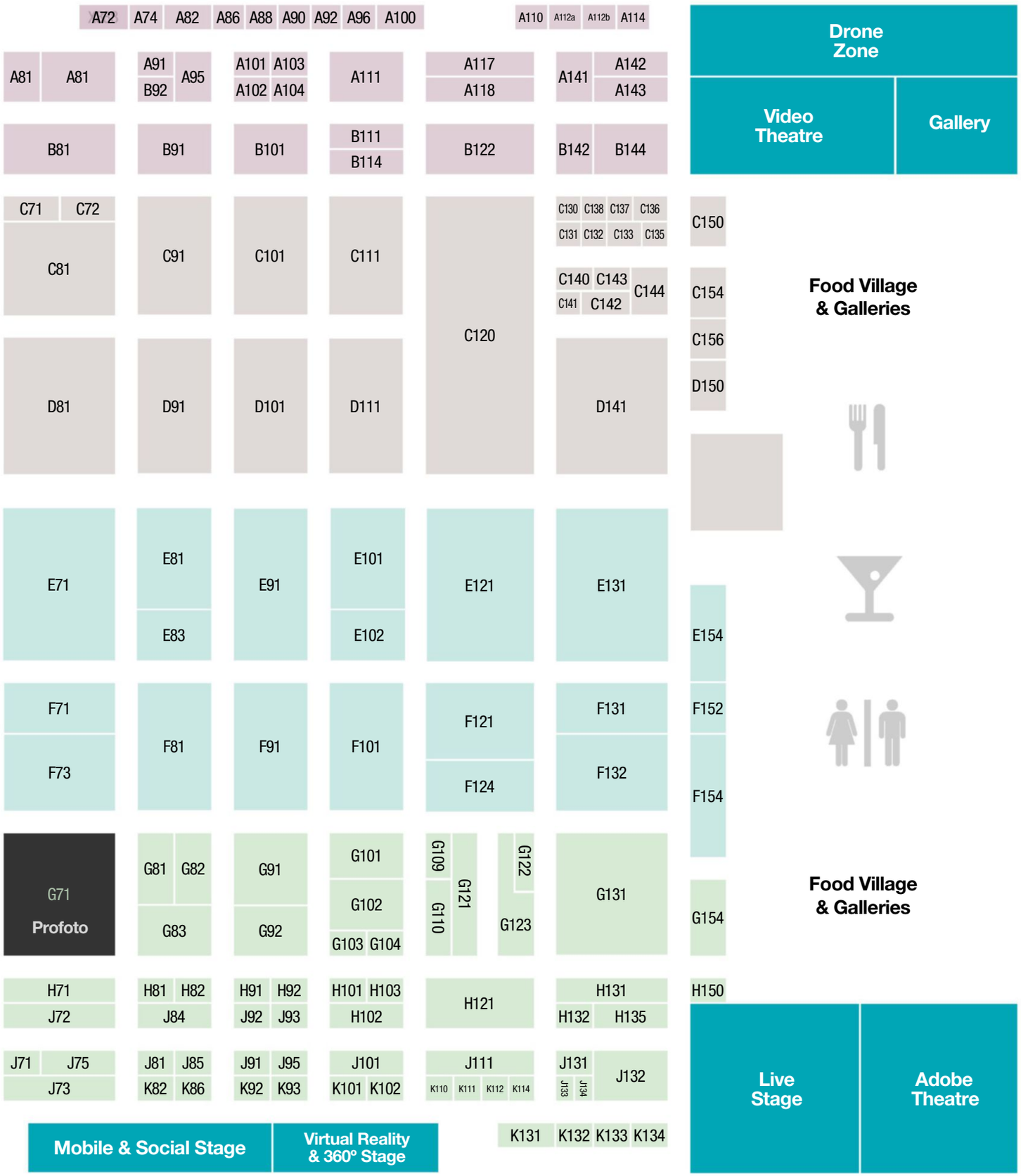
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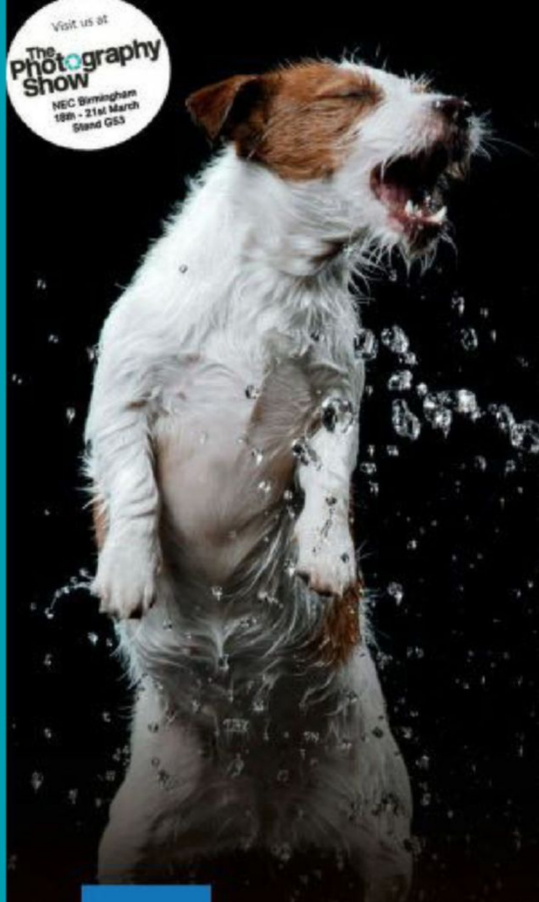
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WHAT'S HOT

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**www.eos-magazine.com**
Take your Canon photography to a new level with EOS magazine.

**EOS TRAINING ACADEMY** F 131
**www.eostrainingacademy.co.uk**
Specialists in dedicated Canon photography tuition.

**EPSON** E 81
**www.epson.co.uk**
Makers of a wide range of products, from A4 printers to large-format output on 64 inch-wide rolls, and from scanners to projectors.

**ETERNA MEDIA** K 92
**www.eternamedia.co.uk**
The UK's largest manufactuer of canvas stretcher bars.

**EVERSURE INSURANCE** A 101
**www.eversure.com/camera**
Insurance for amateurs, semi-professional and pro photographers or videographers.

**EXPOIMAGING** C 81
**www.expoimaging.com**
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**FIG BAGS** B 61
**www.figbags.co.uk**
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**FLAGHEAD** G 92
**www.flaghead.co.uk**
Distributor for pro photographic equipment brands including Hedler, TriggerSmart, Honl and Quantum.

**FLORICOLOR UK** B 111
**www.floricoloruk.com**
A wide range of professional wedding photo albums and high-end photobooks from Porto, Portugal.

## INSTANT GRATIFICATION

### Stepping back to the days of film

WHAT'S HOT

Darkroom is not dead... and instant cameras are cool with the kids. Lomography will be showing off its retro-themed analog cameras and lenses, and check out the mini-resurgence in instant imaging too. Shooting with your phone is so passé at parties – with an instant camera you get a physical print right on the spot as a momento.






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**www.foology.com**
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**FORMAT FESTIVAL** B 57
**www.formatfestival.com**
Annual photo festival in Derby, held this year from March 24 - April 23.

**FOTOLAND IMAGING & EVENTS** J 36
**www.fotolandimaging.com**
Offering safari tours to Tanzania.

**FOTO MASTER** G 32
**www.fotomaster.co.uk**
Photobooths with a difference, including the Mirror Me Booth and the Digital Grafitti Wall.

**FOTOSPEED** G 21
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**FREEDOM EDITS** F 1
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**FRITH & CO** J 73
**www.frithandcompany.co.uk**
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**FUJIFILM** D 61
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**G F SMITH** A 51
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**www.camerabags.gillislondon.com**
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**GITZO** E 41
**www.gitzo.co.uk**
Italian maker of luxury professional tripods, heads and monopods, lusted over for 90 years.

**GLOBAL DISTRIBUTION** D 81
**www.globaldistribution.com**
Leading technology for end-to-end solutions for 4K and HD workflows.

**GOT PHOTO** A 95
**www.gotphoto.co.uk**
An online shop system for nursery and school photographers.

**GUIDE DOGS** J 91
**www.guidedogs.org.uk**
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**HAHNEMÜHLE** J 21
**www.hahnemuehle.com**
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**HAIDA PHOTO** A 91
**www.haidaphoto.com/en**
A new name in filters, Haida make ND, polariser, infra-red and other special effects filters.

**HALSYS** B 92
**www.halsys.co.uk**
Reliable digital imaging and database workflow systems for pro fessional photographers and laboratories.

**HASSELBLAD** F 61
**www.hasselblad.com**
Makers of high-quality, reliable medium-format digital cameras and scanners.

**HAWKESMILL ENGLAND** K 114
**www.hawkesmill.com**
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**HHJ TRADING** H 81
**www.hhj-trading.co.uk**
UK makers of an extensive range of photo frames, including multi-aperture frames.

**HPRC** B 101
**www.hprc.it/en**
Cases used worldwide by pros to protect and carry a range of gear.

**HUNGRY EYE** H 9
**www.lifemediagroup.co.uk**
Quarterly journal dedicated to filmmaking and photography.

**INDURO** E 121
**www.indurogear.com**
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**INFOCUS PHOTOGRAPHY INSURANCE** J 71
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**www.ipo.gov.uk**
UK government body responsible for trade marks and copyright.

**INTERFIT** E 154
**www.interfitphotographic.com**
Lighting specialists who'll be showing the battery-powered S1 monolight, and a portable LED ringlight.

**IRIX** C 31
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Introducing lightweight and durable Irix wide-angle prime lenses.

**ISTORAGE LIMITED** K 86
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**JOBY** E 61
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**JP DISTRIBUTION** B 122
**www.johnsons-photopia.co.uk**
Distributors of accessory brands including Black Rapid, Eddycam, Pocket Wizard, Sekonic, and Syrp.

**JUST LIMITED** A 56
**www.cameraclean.co.uk**
High-quality camera accessories, including cleaning products. Will also be giving sensor-cleaning tutorials.

**KALEIDOSCOPE** J 31
**www.kaleidoscope-framing.co.uk**
High-quality bespoke framing service for photographers.

**K&F CONCEPT** E 102
**www.kentfaith.com**
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**KENRO** G 53
**www.kenro.co.uk**
Nissin flashguns, NanGuang LED lights, Marumi filters, Reflecta projectors, and more.

**KODAK EKTRA** C 51A
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Come to see the Kodak smartphone that has been designed for enthusiast and pro photographers.

**KODAK PIXPRO** E 101
**www.kodakpixpro.com**
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**KOWA OPTIMED** J 61
**www.kowaoptimed.com**
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**LAOWA** B 91
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**LASTOLITE** E 41
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**LEE FILTERS** G 81
**www.leefilters.com**
Full range of camera filter systems, including the LEE Bug (for GoPro), the Eagle Eye (for drones), the Seven5 System for CSCs and more.

**LENCARTA** F 121
**www.lencarta.com**
Studio flash lighting and accessories including the portable Safari 2, and the SuperFast high-speed flash head.

**LENSBABY** H 1
**www.lensbaby.com**
Makers of award-winning, creative-effects lenses for SLRs, CSCs, mobiles and more.

**LENSES FOR HIRE** B 42
**www.lensesforhire.co.uk**
Wide range of cameras and lenses for Canon and Nikon users to hire.

**LENSPIMP** H 69
**www.lenspimp.com**
Lens hire company specialising in lenses for Canon and Nikon DSLRs.

**LIGHT AND IMAGINATION** J 35
**www.lightandimagination.com**
Training and studio hire for hobby and pro photographers.

**LIGHT BLUE SOFTWARE** A 68
**www.lightbluesoftware.com**
Photo business software that tracks enquiries, manages quotes, sends invoices and more.

**LOKI CAMERA GEAR** C 130
**www.lokicameragear.com**
Innovative and ultra-portable camera rig and shoulder mount that lets you shoot smooth handheld movie footage with an SLR or CSC.

**LOMOGRAPHY** E 83
**www.lomography.com**
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**LUXS** G 154
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**MAC GROUP** E 121
**www.macgroupeu.com**
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**MACWET** A 88
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**MAGMOD** E 71
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**MANFROTTO** E 41
**www.manfrotto.co.uk**
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**MARTIN NEWTON PHOTOGRAPHY** K 111
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**THE MASTER PHOTOGRAPHERS ASSOCIATION** H 22
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**MOO** C 71
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**www.nationaltrust.org.uk**
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**NEWBORN ART PHOTOGRAPHY TRAINING** G 122
**www.newbornartacademy.co.uk**
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**NIKON** C 11 C 12
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**NISI FILTER** B 32
**www.nisidigital.com/en**
An international new brand in the camera filter market.

## TRICKS WITHOUT MIRRORS
### Fast shooting with the latest CSCs

WHAT'S HOT

See the cameras that bust through traditional speed barriers to capture full-resolution stills at 30 or even 60 frames a second. The Olympus OM-D E-M1 Mark II can capture moments that would defeat even a pro DSLR, and Panasonic's uprated its 4K Photo technology to offer amazing 6K, 18-megapixel stills at 30fps from its brand new GH5.



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**N-PHOTO** F 31
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N-Photo is the award-winning independent magazine for Nikon photographers.

**OLYMPUS UK** D 91
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**OPTICS TRIPOD CHAIRS** C 141
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**ORANGEMONKIE** H 150
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**OUTDOOR PHOTOGRAPHY** J 72
**outdoorphotographymagazine.co.uk**
UK magazine for photographers passionate about being in the wild.

**PAGB** G 110
**www.thepagb.org.uk**
The Photographic Alliance of Great Britain coordinates activities across photographic clubs through the UK.

**PALETTE GEAR** C 142
**www.palettegear.com**
Offers a dial, button and slide-based personalised controller system for faster editing.

**PANASONIC** D 41
**www.panasonic.com/uk**
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**PANZER CASES** F 124
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**PATERSON PHOTOGRAPHIC LTD** A 111
**www.patersonphotographic.com**
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**PEAK DESIGN** E 71
**www.peakdesign.com**
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**PENTAX** D 101
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**PHOTOBOOTHS** C 52
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**PHOTOFINCA** K 131
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**PHOTOGRAPHY WEEK** F 31
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## OLD IS THE NEW NEW
### The latest designs are all retro

WHAT'S HOT

Discover the cameras that combine traditional camera design with cutting edge tech. The Olympus PEN-F looks just like the old PEN-F half-frame camera but packs in Olympus's latest 20-megapixel sensor and 5-axis image stabilisation, while the Fujifilm X-T2 offers traditional external shutter speed and aperture controls with Fujifilm's famed 24-megapixel X-Trans sensor.

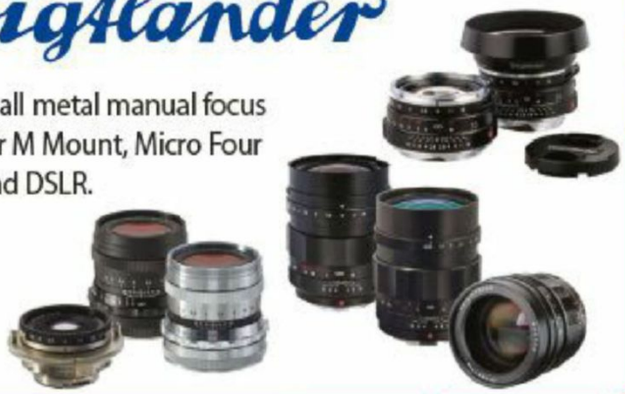


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**PHOTO-ME** B 62
**www.photo-me.co.uk**
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**PHOTOPLUS** F 31
**www.facebook.com/PhotoPlusMag**
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**PHOTOSHOP CREATIVE** F 31
**www.photoshopcreative.co.uk**
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**PHOTOSHOP DIGITAL** A 21
**www.photoshopdigital.com**
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**PHOTOVALUE** B 114
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**PHOTOXPORT** A 31
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**PHOT-R** C 101
**www.phot-r.com**
Over 500 products for pros and amateurs, including light stands, booms and background kits.

**PHOXI TOG** H 2
**www.phoxitog.com**
Plush toys that wrap around your lens that squeak – designed to help photograph chilidren.

**PICA-GEAR** C 156
**www.pica-gear.com**
Check out the Pica-Pod, said to be the world's most adaptable mini tripod.

**PICSCOUT** H 132
**www.picscout.com**
Image intelligence system that lets photographers to track down who is using their images on the web.

**PIXAPRO** E 91
**www.essentialphoto.co.uk**
Specialist in studio-lighting equipment and accessories, based in Birmingham.

**PIXEL** H 9
**www.lifemediagroup.co.uk/pixel-magazine**
Trade-only magazine, providing a gateway to professional development in all aspects of the photography industry.

**PLASTIC SANDWICH** H 47
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**PRACTICAL PHOTOGRAPHY** J 132
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**PROFOTO** G 71
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Top light manufacturer, used for everything from billboards to fashion magazines.

**PRO PRINTS SOLUTIONS** C 150
**www.proprintsolutions.co.uk**
Supply and service Canon large-format printers and 3D printers.

**QNAP** C 51
**www.qnap.com/en-uk/**
Specialist network attached storage (NAS) drive suppliers.

**REFLECMEDIA** H 82
**www.reflecmedia.com**
Portable, flexible and easy-to-use chromakey solutions to provide a virtual studio on a budget.

**REMEMBER MY BABY** J 66
**www.remembermybaby.org.uk**
UK-based registered charity offering professional photography services for parents who have lost a baby.

## FLASH GETS FASTER
### Studio gear continues to evolve

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**ROBERT WHITE** G 92
**www.robertwhite.co.uk**
Professional photo retailer and importer of Ebony, Voigtländer, Arca Swiss cameras.

**ROBERT HARDING** K 133
**www.robertharding.com**
Curated stock photos and video clips of travel, nature, environment, wildlife and culture.

**ROCKY NOOK** J 131
**www.rockynook.com**
American publisher of educational books on photography.

**RØDE MICROPHONES** H 65
**www.sourcedistribution.co.uk**
Premium mics and audio accessories including the best-selling VideoMic and the new compact VideoMicro.

**ROTATRIM** H 71
**www.rotatrim.co.uk**
Makers of the world's finest rotary action precision paper and print trimmers since 1966.

**ROTOLIGHT** D 150
**www.rotolight.com**
Maker of award-winning on-camera, studio and location LED lighting, based at Pinewood Studios.

**ROUTLEDGE** H 70
**www.routledge.com**
Book publisher best known to photographers through the Focal Press imprint.

**ROYAL PHOTOGRAPHIC SOCIETY** C 91
**www.rps.org**
International, modern and forward-looking organisation with a distinguished past.

**RSPB** K 82
**www.rspb.org.uk**
The RSPB is the UK's biggest wildlife conservation organisation.

**SAAL DIGITAL** G 46
**www.saal-digital.de**
German photo lab that produces photobooks, posters, fine art prints, calendars and more.

**SCHNEIDER** E 41
**www.manfrotto.co.uk/schneider-kreuznach**
High-quality Xenon-range lenses in Nikon, Canon and Arri PL mounts.

**SENSE-TECH INNOVATION** C 154
**www.stcoptics.com/en**
Filter and screen protector specialists.

**SHAPE** D 81
**www.shapewlb.com**
Rigs, supports and other accessories for the pro videomaker.

**SHOOTOOLS** B 101
**www.shootools.com**
Italian company specialising in camera clider and timelapse control systems for filmmakers.

**SHOOTPROOF** F 154
**www.shootproof.com**
Offers an easy way to share, sell, and print through online galleries and mobile apps.

**SIGMA IMAGING** F 51
**www.sigma-imaging-uk.com**
Check out Sigma's Global Vision range and latest cameras, lenses and flashguns.

**SILLY JOKES PHOTO BOOTH PROPS** J 95
**www.sillyjokes.co.uk**
Bringing the UK's largest range of photobooth props.

**SIM IMAGING** B 81
**www.simimaging.co.uk**
Supplier of quality photo books and photo albums.

**SIRUI** C 21
**www.sirui.co.uk**
Innovative maker of tripods and tripod heads, monopods, video accessories, and bags.

**SJCAM** C 131
**www.sjcamhd.uk.com**
Action camera manufacturer of basic, elite and mini models.

**SMUGMUG** H 131
**www.smugmug.com**
Enables you to create pro-looking galleries and websites and back up your images at the same time.

**SNAPPERSTUFF** G 101 F 101
**www.snapperstuff.com**
Distributors of ThinkTank bags, FLM tripod heads, LumiQuest flash modifiers, MindShift bags and more.

## PROCESSING POWER REDEFINED

WHAT'S HOT

### Having your cake, and eating it!

Once, there was no full-frame pro camera that offered both high resolution and high-speed continuous shooting. Now there is. The Sony Alpha a99 II delivers 42.4 megapixels at 12 frames per second, and also boasts a highly advanced hybrid all-phase-detection autofocus system combining DSLR responses with mirrorless frame coverage. Action/sports photographers need to see this!



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The Photography Show

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3. Get expert advice on your imagery.
4. Monthly Image Competition.
5. Reduced Insurance Rates.
6. Free listing & online gallery on our website.
7. Qualifications by the submission of work.
8. Photography workshops, seminars and Conventions
9. Exclusive member discounts on selected photographic products and services.
10. Discounts on Annual Convention.

**For more information on joining one of our eight Societies and how we can help you with your photography please visit thesocieties.net**

**SOLE-MATES** J 51
**www.sole-mates.eu**
Providing insoles to bring relief to your tired feet!

**SONY UK** D 51
**www.sony.co.uk**
Check out Sony's new products including the new a7, a6500, and a99 II cameras, and the latest additions to the Sony lens range.

**SOOD STUDIOS** G 1
**www.soodstudio.com**
Innovative photographic printing services for you.

**SPEED GRAPHIC** G 82
**www.speedgraphic.co.uk**
Accessory retailer with great deals on Gitzo, Manfrotto, Lastolite, Think Tank and more. Plus see demos of Novoflex and other unusual kit.

**SPÉOS** G 104
**www.speos-photo.com**
Photographic institute offering courses in Paris or London.

**SRB** F 71
**www.srb-photographic.co.uk**
Long-established UK photographic retailer with a wide product range.

**SUNBOUNCE/ SUNSNIPER** H 42
**www.tetenaluk.com**
Sunbounce reflectors and diffusers, plus Sunsniper action cam straps.

**SYNOLOGY** G 63
**www.synology.com/en-uk**
High-performance Network Attached Storage (NAS) drives.

**SYSTEM INSIGHT** A 34
**www.systeminsight.co.uk**
Fast printing solutions for photographers.

**TAILORED** H 101
**www.tailoredgear.com**
Buckinghamshire-based company.

**TEAMWORK DIGITAL** H 45
**www.teamworkphoto.com**
A leader in soft-sided, professional camera bags since 1977.

**TECCO PHOTO** C 81
**www.tecco.de**
Manufacturers of high-quality inkjet papers.

**TENBA** E 121
**www.tenba.com**
A leader in soft-sided, professional camera bags since 1977.

**TETENAL** G 83
**www.tetenaluk.com**
Printer, darkroom and digital photography supplies – including the Epson SureLab range of printers.

**TETHER TOOLS** G 92
**www.tethertools.com**
Cables and accessories for tethered shooting with an iPad or computer.

**THE CALENDAR COMPANY** A 33
**www.thecalendarcompany.org**
Calendars for the photo trade.

**THE FLASH CENTRE** D 111
**www.theflashcentre.co.uk**
The UK's leading Studio Lighting Specialists for over 25 years.

**THE GUILD OF PHOTOGRAPHERS** J 75
**www.photoguild.co.uk**
Training courses, networking, support, insurance and discounts.

**THE ILEX PRESS** J 69
**www.ilex-press.com**
Leading publisher of photography books and other publications.

**THE PRINT FOUNDRY** H 21
**www.theprintfoundry.co.uk**
Fine-art printing, mounting and framing services.

**THE SOCIETIES/SWPP** B 60
**www.thesocieties.net**
A group of organisations incorporating the interests of all aspects of photography.

**THE TRAINED EYE** J 93
**www.thetrainedeye.co.uk**
Courses in wedding photography, portraiture, lighting and more.

**THEIMAGEFILE** J 86
**www.theimagefile.com**
Web solution for proofing, displaying and selling images online.

**TOM MORGAN PICTURES** K 110
Picture frame manufacturers.

**TOPAZ LABS** A 41
**www.topazlabs.com**
Software utilities for photographers.

**TOWERGATE CAMERASURE** A 71
**www.towergatecamerasure.co.uk**
Wide range of insurance services.

## SOFTWARE UPDATES
### The latest generation of image editors

WHAT'S HOT

Find out where the latest photo-editing technologies will take your photography next! Serif's Affinity Photo threatens to turn the pro image-editing market on its head – and is at last available for both PC and Mac. Meanwhile Topaz Labs will be showing plug-ins and presets to give you the perfect 'look' with the minimum effort. And don't miss the Adobe Theatre events programme of seminars on Photoshop, Lightroom and mobile image manipulation.



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**www.trainingbylumiere.co.uk**
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**TRIGGERSMART** G 92
**www.flaghead.co.uk/products/triggersmart.html**
Triggering systems that use sound, light, infrared beam, or movement to fire your camera remotely.

**TURNSPRO** J 92
**www.turnspro.com**
Timelapse camera mount for filmmakers and photographers.

**UK OPTICS** B 91
**www.ukoptics.co.uk**
Distributors of Laowa lenses, and of Novo and Nest accessories.

**ULTIMAT** G 123
**www.ultimatframes.com**
Huge range of frames and mounts.

**UNITARY STUDIOS** C 135
**www.unitarystudios.co.uk**
Video producers specialising in marketing, social media, YouTube, short films, live events and more.

**USB2U** H 102
**www.photographers.usb2u.co.uk**
Innovative supplier of USB drives.

**USBMAKERS.COM** A 72
**www.usbmakers.com**
Branded USBs memory devices for photographers.

**VALLERRET PHOTOGRAPHY GLOVES** J 133
**www.photographygloves.com**
Gloves designed for photographers.

**VANGUARD** H 31
**www.vanguardworld.co.uk**
Founded in 1986, Vanguard designs and makes high-quality accessories.

**VANILLA PHOTOBOOKS** G 45
**www.vanillaphotobooks.co.uk**
Quality photobooks available at competitive prices.

**VERSATRIGGER** J 134
**www.versatrigger.co.uk**
Trigger your creative photography with this high-speed trigger system.

**VIEWFINDER PHOTOGRAPHY** D 1
**www.viewfinderphotography.co.uk**
Quality studio and lighting equipment at keen prices.

**VISIBLE DUST** A 82
**www.alphaodl.co.uk**
Distributors of Visible Dust sensor cleaners, Novagrade digiscope adapters, Zenelli gimbal heads and Kite optics.

**VISICO STUDIO EQUIPMENT** J 45
**www.visico.com**
Studio lighting manufacturers.

**WACOM** C 111
**www.wacom.com/en/gb**
Leading maker of pen tablets, interactive pen displays, and digital interface solutions.

**WD** G 33
**www.wdc.com**
Offering photographers internal and external hard drives.

**WEDDING VIDEO ALBUMS** H 91
**www.weddingvideoalbums.co.uk**
The album with a big difference – playing images or video on a customised tablet screen that look from the outside like a photobook.

**WHITEWALL** A 11
**www.whitewall.co.uk**
Wide range of high-quality printing and photo-finishing services.

**WILDFOOT TRAVEL** B 73
**www.wildfoottravel.com**
Specialist wildlife and adventure travel company.

**WORLD HERITAGE FOUNDATION – THE BIG CAT SANCTUARY** C 138
**www.whf.org.uk**
Photo workshops that give acess to the tigers, leopards and other cats of the Wildlife Heritage Foundation.

**WOMEN IN PHOTOGRAPHY AT UNIVERSITY OF THE CREATIVE ARTS** H 11
**www.uca.ac.uk**
Promoting women photographers.

**X-RITE** C 81
**www.xritephoto.eu**
Distributor for X-Rite's range of colour management products.

**YUNEEC** G 51
**www.yuneec.uk**
Makers of the Breeze, Typhoon and Tornado ranges of imaging drones.

**ZEISS** B 21
**www.zeiss.co.uk/cameralenses**
High-quality Otus and Milvus prime lenses for Nikon and Canon DSLRs, and for Fujifilm and Sony CSCs).

**ZENFOLIO** H 4
**www.zenfolio.com**
Photo and video hosting e-commerce platform, voted number one by pro photographers.

## PHOTOBOOKS ON PARADE

### The best books for your business

WHAT'S HOT

Photobooks are the essential way of displaying wedding photographs – but with so many different finishes, how do you choose the right supplier, paper and binding for your clients? At The Photography Show, of course! This is a rare chance to see a whole spectrum of photo books in one place at one time, from suppliers from across Europe – allowing you to see and touch before you buy. Check out the new trends, too, such as increadingly-popular layflat books and a wedding video album 'photobook' built around a tablet.





# CAPTURE

## BIRMINGHAM | 18-19 March 2017

Capture Birmingham sees organisations all around the City host a series of events during the weekend of The Photography Show...

**Whether you are looking to further improve your photography skills, or to be inspired by other photographers, the city's photography community will offer a range of photo walks, workshops and gallery exhibitions to add a little extra zest to your stay.**

### JEAN PAINLEVÉ EXHIBITION

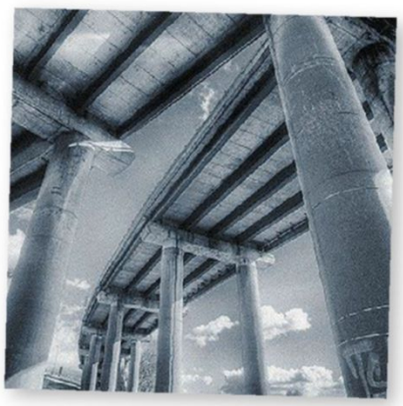
*Ikon Gallery, Brindleyplace*

The first UK exhibition of work by pioneering French film director and biologist Jean Painlevé (1902 – 1989). His cinematographic and photographic portraits of octopi, lobsters, starfish and seahorses were at the centre of the avant-garde movement of the 1920s.

### C12 EXHIBITION AND RAFFLE

*Millennium Point*

All the donated prints in this exhibition will be won as raffle prises to raise money for the Disabled Photographers' Society. Photographers include the late Adrian Flowers, John Claridge, Lorentz Gullachsen, and Joe Cornish, to name a few. Raffle tickets cost £1 each, and the winners will be announced on the Live Stage on Tuesday, 21 March at 13:00.



### SCAVENGER HUNT LED BY WE ALL SHOOT PHOTOS

Photographers will be split up into teams and sent out on a photography scavenger hunt challenge. At the end of the session, everyone will finish at a venue for drinks and networking.

### SOPHIE HEDDERWICK SWIFT AS A SHADOW EXHIBITION

*Argentea Gallery, St Pauls Square*

Slow shutter speed images of ballet dancers, inspired by Degas' sculpture Little Dancer Aged Fourteen.

### LIGHT PAINTING AND LONG EXPOSURE WORKSHOP

Learn new techniques for taking long exposure photos and have fun experimenting with light sources. There is a £20 charge for this event, which is run by Mosoca Photography.

**Find more information at www.photographyshow.com/capturebrum. Further events hosted by other organisations, including our partner Visit Birmingham, will be announced soon.**

## GETTING TO THE SHOW

**By train**
The NEC is 5 minutes walk from Birmingham International station, which is a 10 minutes train trip from Birmingham New Street or 90 minutes from London Euston. Get 25% off Virgin Train tickets, at www.virgintrains.co.uk/nec.

**By car**
The NEC is close to the M6, M1, M40 and M42. Parking is £12 per day – bookable at www.thenec.co.uk/visitors/parking.

**By air**
The NEC is just a few minutes away from Birmingham Airport (BHX).

**Staying overnight**
There are a number of hotels located near the NEC itself, from high-end to budget. Visit photographyshow.com/hotels for more info.

**Disabled visitors**
All levels of the NEC are accessible to wheelchair users, via ramps or lifts. The NEC has wheelchairs and mobility scooters available for hire – telephone 0121 780 4141 to book. There is disabled parking close to the venue. If you require a carer ticket, please call our free hotline on 0800 640 5001.

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