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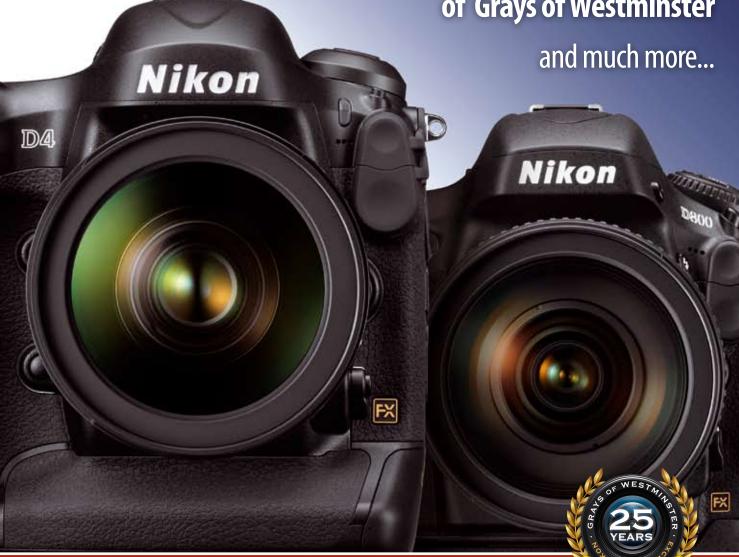
### Peak Pace Performer — The Nikon D4 Preview

by Simon Stafford

### Resolution Revelation — The Nikon D800 Preview

by Simon Stafford

Nikon Celebrates 25 Years of Grays of Westminster



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### welcome



Jim Brandenburg on the D800

### Off the Dood 851

Jim Brandenburg with the new Nikon D800

New AF-S NIKKOR 85mm f/1.8G arrives

In March this year a new fast aperture medium-telephoto lens, the AF-S NIKKOR 85mm f/1.8G was released. The combination of the classic focal length, large (f/1.8) aperture and re-designed optical system that meets the requirements of today's D-SLRs, delivers superb image quality whilst offering photographers an affordable way to take advantage of Nikon's rich legacy of renowned 85mm NIKKOR optics.

Jim Brandenburg, one of the most accomplished and prolific wildlife photographers in the world, telephoned me recently from USA and we must have been talking for almost an hour. Jim said he was extremely honoured to be featured in last month's highly anticipated launch of Nikon's new full-frame DSLR, the D800. Last summer, Jim was commissioned by Nikon to demonstrate the incredible new camera's technology, spending a month with the D800 and a Nikon film crew on the northern coast of France. He summed it up below.

than technology. The goal is not mega pixels or technique but the image, and while camera models are important, they are not the be-all or end-all. But after a lifetime using countless cameras, I have found a new best friend. It was not love at first sight. The sharpness and detail were initially intimidating, exposing my flaws like never before. Subtle camera movements showed and differences of acuity between aperture choices on various lenses were apparent. But now I am enthralled with this technology. Why? Because the images almost feel as though they were made with a 4x5 view camera! Special features like timelapse photography and the improved HD video quality and flexibility also add tremendously to the camera's personality. After spending a month with the D800, I'll never be the same again. Perhaps the best compliment I can express is that now I will think differently about the images I make."

The Nikon D800 will I suspect will be a camera that will dominate the DSLR world for the foreseeable future. Will the D4 and D800 live up to high expectations? I think they very well may.



s I write this letter some of you will

have already aquired the mighty

new flasghip Nikon D4 and the

D800/D800E DSLR cameras.



The new Nikon FX-format digital SLR camera the D800 has the world's highest effective pixel count–36.3-million pixels – for noteworthy definition and image quality. There is such a volume of rumour and opinion about the new models that I enlisted the well-known photographer, best-selling author and Technical Editor of *Nikon Owner* magazine Simon Stafford to cast his eye over these new cameras and give us the benefit of his findings.

The classic 85mm focal length allows for tight head and shoulder shots with extreme detail. The fast f/1.8 aperture perfectly balances sharpness and bokeh, so you can single out subjects beautifully, and it provides a bright viewfinder image that makes it easier to compose your shots. An excellent choice when shooting in low light, the fast aperture also helps you shoot with available light and still capture striking, sharp images. The new 85mm f/1.8 lens is an ideal portrait lens that features an all-new optical design that has been optimised to meet the requirements of today's D-SLRs. Comprising 9 elements in 9 groups, it offers superb image quality and makes an attractive choice for videographers. The dedicated Silent Wave Motor (SWM) ensures discreet but accurate autofocus. Weighing in at only 350 grams, this weather-sealed compact new 85mm lens is lighter than its predecessors. Compatible with Nikon FX-format D-SLRs, it offers a 127.5mm (equivalent) focal length when used with Nikon DX-format D-SLRs, and is fully compatible with entry level D-SLRs that do not have a built-in autofocus motor.



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### Nikon Celebrates 25 Years of Grays of Westminster at The Goring



Elsewhere in this issue the Features Editor of Nikon Owner Gillian Greenwood (author of Grays of Westminster - In the Company of Legends) reflects upon Nikon's celebration of the 25th Anniversary of

Grays of Westminster held last year at The Goring Hotel in Belgravia, London.

### And the Winner is...



The demand for Nikon equipment comes from many different geographical locations and for many different applications. For example, over the years we have been called upon to supply Nikon lenses for a number of movies such as Tim Burton's Corpse Bride, Fantastic Mr. Fox, Wallace & Gromit: The Curse of the Were-Rabbit to name a few, as well as the forthcoming animated adventure, ParaNorman from the makers of Coraline and Aardman's The Pirates! Band of Misfits due for release in 2012.

But it is not just large movie projects we look after; we also have had the pleasure of working with smaller budgets on independent productions.

### Lights, camera, action!

We have a

enquiries

department

that deals with

the increasing

with regard to

shooting video



with Nikon
DSLRs. This
department is
run by Grays of
Westminster's
director of
photography,

Mark Gibson who has been involved in video production and filming for over 30 years since setting up an outside sports broadcast company. He is currently expanding Grays' customer base into the video market.

Mark is an Apple Certified Editor and Trainer in Final Cut Pro X. He also has qualifications with Raindance Film School in documentaries, the Frontline Club in news gathering and has recently enrolled in F-Stop Academy for lighting. Mark has worked on big budget shoots in the USA, Japan and the UK.

Film companies and corporate customers aside, whether you are visiting Grays of Westminster in person or calling about a D4 or an eyecup, we are always happy to hear from you.



We are delighted to receive so many lovely letters, emails and comments from our customers; the kind words we hear and read are a great tribute to the staff who strive to make your experience of shopping at

Grays of Westminster memorable and special. We have also been fortunate to be recognised with various awards. Some recent accolades include: Pixel Magazine Trade Award: Grays of Westminster - Independent Retailer of the Year 2011 and the What Digital Camera/ Amateur Photographer 'Gold Winner' Good Service Award 2012. Grays of Westminster was presented with the What Digital Camera/ Amateur Photographer 'Gold Winner' Good Service Award, as voted for by What Digital Camera readers and website visitors for the second year in a row. This prestigious award was presented to us by Nigel Atherton, Editor of What Digital Camera at the Amateur Photographer Annual Awards ceremony in the glamorous surroundings of Quaglino's in London on 26th January.

This year the UK is hosting a number of wonderful events which will leave their mark in the history books, such as the Olympic Games, but of all the momentous events none promises to be more joyous than HM The Queen's Diamond Jubilee. If you are travelling to London, a visit to Grays of Westminster, given our location (just a short distance from Buckingham Place), is the perfect place for you to visit beforehand so that you can go forth, armed with the right Nikon equipment, as the Diamond Jubilee weekend celebrations unfold. There will be numerous opportunities to soak up the atmosphere and capture this very British Celebration.

Kind regards,



Gray Levett



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# PEAK PACE PERFORMER

SIMON STAFFORD previews the D4, the latest 'flagship' D-SLR from Nikon.



The year had barely begun before Nikon announced the D4, its latest 'flagship' D-SLR camera, successor to the highly acclaimed and multi-award winning D3/D3s models. The new camera is a tool for the professional photographer, designed without compromise to both perform and survive in the most challenging conditions.

The D4 features a 16.2-million pixel Nikon FX-format CMOS sensor, all-new 91,000-pixel RGB ambient/flash metering sensor, standard ISO range of 100-12,800 (extendable to 50-204,800), revised 51-point AF system with increased sensitivity to support autofocus when using a lens or lens/teleconverter combination that has a maximum aperture of f/8, new shutter unit capable of 10 frames per second (or 11fps with restrictions to exposure and AF control), EXPEED 3 image processing, 1080p video capture with audio monitoring, uncompressed video output via the HDMI port, twin memory card slots (one for CompactFlash and the other for the new XQD CompactFlash format), a new

battery, the EN-EL18, plus enhanced in-camera processing, including an HDR function and creation of time-lapse video.

Following in the footsteps of all recent professional Nikon D-SLR cameras, the D4 is manufactured exclusively at Nikon's factory in Sendai, Japan; it represents the culmination of in-depth analysis of extensive customer feedback on the D3-series cameras that has resulted in carefully considered changes both externally and internally. In designing the D4, Nikon addressed three key criteria of the professional photographer: image quality, speed of operation and workflow integration, and embraced the very latest technologies to achieve their purpose.

The following is a summary of the key features and functions of the D4, together with my first impressions of the camera. At the time of writing, March 2012, Nikon (UK) has only shown pre-production samples of the D4, so any comments in respect of performance are speculative.

### **ERGONOMICS**

A professional D-SLR camera can expect to be used very frequently, often for protracted periods, so its ergonomics are crucially important. In this respect the D4 has undergone some significant changes to its exterior control layout compared with the D3-series cameras, as well as improvements to its rear monitor screen, although the overall size and profile of the D4 and D3s are very similar, as is their weight, at 1,180g (2lb 9.6oz) and 1,240g (2lb 12oz) respectively (body only without battery or memory cards). In essence Nikon has designed the D4 in order that the photographer can keep the camera to the eye to maintain continuity during shooting, while being as convenient to use when shooting in a vertical format as it is in a horizontal format, by placing the relevant controls with similar locations to provide close proximity to the thumb and fingers of the photographer's right hand.

The first obvious and very welcome change is the re-positioning of the AF-ON button for vertical shooting. This has been a long-standing handling foible of Nikon D-SLR cameras, due to the button being located close to the bottom edge of the camera, where it is all too easy to depress it inadvertently with the heel of the right palm when using the camera in the horizontal orientation. The button has been moved much higher up the rear panel, but to improve AF operation even further, the D4 has a separate AF control switch (Nikon refer to these as Sub-selector buttons) paired with each of the two AF-ON buttons that allow rapid selection of the AF point, regardless of whether the camera is used for horizontal or vertical shooting. Once you hold the camera you very quickly abandon the main multi-selector button for AF control, and restrict its use to navigation of the menu system. Furthermore, the AF point follows automatically if the camera orientation is changed, so for example, if the top centre AF point is selected when the camera is held horizontally and it is then swung to the vertical orientation, the AF point moves, so it remains at the top centre position.

The front edge of the top plate has been reshaped around the shutter release button, which together with its surrounding On/Off switch collar has a flatter profile, so it slopes forward more compared with the D3s. Set just behind the shutter release is a dedicated record button for video; this location was chosen to minimise the disturbance to the camera when shooting, while nestling just behind the vertical shutter release is a duplicate Function button. By incorporating the AF-area mode

Following in the footsteps of all recent professional Nikon D-SLR cameras, the D4 is manufactured exclusively at Nikon's factory in Sendai, Japan; it represents the culmination of in-depth analysis of extensive customer feedback on the D3-series cameras... "



selection in the AF mode button on the front of the D4, the AF-area selector switch on the rear panel of the D3s is no longer required, which helps to make room for the new controls, such as the Sub-selector buttons. Also noticeable by its absence is an AE-L/AF-L button; this function can now be assigned to one of a number of other buttons on the D4, for example the Function button. The metering mode dial on the right side of the viewfinder head of the D3s has been dispensed with, and this function is now operated via a small button set within the cluster on the left side of the D4 top plate, replacing the Lock (L) button of the D3s.

Nikon has extended the configurability of the camera control buttons by some margin compared with the D3s, so the Function buttons, Preview (Depth-of-Field) button, Sub-selector buttons, Bracket (BKT) button, both shutter release and AF-ON buttons, plus the Multi-selector switch can all be customized, and depending on the condition of the camera some buttons can be assigned more than one role. This greater flexibility is in part due to the D4 having a separate section in its Custom Settings menu for video operation.

The 921,000-dot rear LCD monitor screen has increased in size to 8 cm (3.2 in) across the diagonal, plus it has an improved colour gamut that takes it very close to the sRGB colour space. New in the D4 is an ambient light sensor adjacent to the right edge of the screen that adjusts the screen brightness, contrast, saturation and gamma automatically according to the ambient light conditions (this can be disabled if preferred). Still images can be magnified up to 46x during playback for critical assessment of focus accuracy. Another change in the D4 is the use of a resin bonding between the monitor screen surface and the inner surface of the hardened glass screen cover. This helps to improve the viewing angle of the screen, enhance screen clarity by decreasing light loss, and prevent the ingress of dust and moisture between the two.

The viewfinder has a solid glass prism that offers approximately 100% frame coverage and a 0.7x magnification (50mm f/1.4 lens at infinity), while the high eye-point design offers an eye-relief distance of 18mm, providing a clear unobstructed view of the frame area and all the information displays within the viewfinder. To assist in accurate framing, the D4 has a new twin-axis virtual horizon feature that operates in both Live View and in the viewfinder to provide an indication of whether the camera is pitched up or down, in addition to whether it is tilted off the horizontal to the left or right.

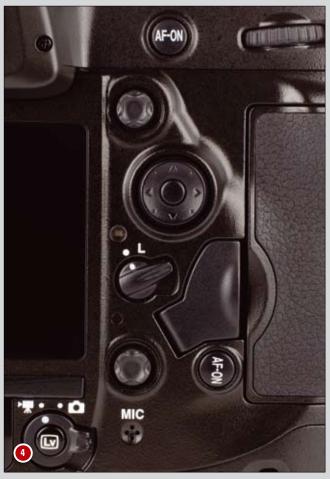
Other small but no less important tweaks include direct access to the Nikon Picture Controls via a dedicated button (the Protect button is used), rather than the menu system, separate zoom in and zoom out buttons for image





1: The Function and Preview buttons of the D4 can be assigned a range of different roles 2: The angle of the shutter release button is now steeper to help improve camera handling 3: The D4 has adopted the same AF mode and AF-area mode button configuration of the D7000 4: The rear control panel of the D4 is noticeably different from the D3s, with the addition of two buttons for AF point selection









review, repositioning of the voice memo record button and microphone, so the microphone is not blocked by the thumb or fingers of the user's left hand as it is on the D3s, and a thumb grip below the vertical shooting rear command dial for more secure support of the camera by the right hand. Finally, to assist camera operation in low-light conditions, the major control buttons can be backlit (this feature can be switched off if preferred).

### **SENSOR**

The D4 features a new FX-format (23.9 x 36 mm) CMOS sensor developed by Nikon, with 16.2 million effective pixels, and has a pixel pitch of 7.3 microns. It provides image dimensions of 4928 x 3280 pixels at full resolution. Nikon claim the photosites (pixels) on the sensor are more efficient at light gathering, and that the analogue-todigital conversion circuitry embedded in the sensor reduces noise levels, so that even at the highest ISO setting there is no impact on the write-time to the buffer memory. The increased readout speed of the sensor enables the camera to cycle its shutter at up to 10 frames per second (fps), while delivering very low-noise performance. The camera offers a normal ISO range of 100 to 12,800, adjustable in 1/3EV steps, plus an extended range of Lo 1 (ISO 50 equivalent) in 1/3EV steps, up to Hi-1 (ISO 25,600) in 1/3EV steps and up to Hi-2 (ISO 51,200), Hi-3 (102,400) and Hi-4 (204,800) in 1EV steps.

Supporting the new sensor is Nikon's third-generation image processing regime,

EXPEED 3 that handles 14-bit analogue-to-digital conversion, followed by 16-bit image processing. Data processing is claimed to be significantly faster (Nikon has specified it at 30% quicker) than the EXPEED 2 processing of the D3s, with enhanced noise reduction algorithms that produce cleaner stills and video files, even at very high ISO settings. Image files can be saved in the proprietary Nikon NEF (Raw), TIFF, and JPEG formats.

The high ISO noise levels of the D4 and D3s appear to be broadly similar, although due to improvements in the noise reduction performance of the Expeed 3 processing, the D4 exhibits somewhat less colour noise. The principal difference between the two cameras when used at high sensitivities is the greater level of fine detail achieved by the D4. In addition, it seems the tonal rendition of skin tones has been improved, particularly in shadow areas, as a result if tweaking the tone curve applied to image data. Finally, the D4 and D3s share the same built-in self-cleaning feature for the sensor's filter array.

### **METERING**

The D4 incorporates an all-new 91,000-pixel RGB sensor for its 3D Color Matrix metering III system, a far cry from the 1,005-pixel sensor used by all other professional Nikon SLR and D-SLR cameras from the F5 to

the D3 series! The metering system is fully integrated with the AF and auto-exposure systems, in what Nikon call their Advanced Scene Recognition System. Unlike metering sensors used by other manufacturers that group pixels into segments, the metering sensor of the D4 uses each individual pixel as a sampling point, which not only improves scene analysis for increased exposure accuracy, but also enhances the abilities of the AF system, in particular its subjecttracking capabilities, even with subjects that are relatively small within the frame area. This increased sampling of the scene also enables the D4 to recognise human faces within the frame and report their location to the AF system, when it is set to Auto-area AF, plus optimise exposure accordingly, even in difficult lighting conditions.

A useful option added to the D4 is the ability to separate the effects of exposure compensation on ambient light and flash exposure; in all previous Nikon D-SLR cameras, applying exposure compensation causes the ambient exposure and flash output for any Speedlight connected to the camera to be altered in equal amounts. The D4 enables exposure compensation to be applied to the ambient exposure only when shooting with flash, which will simplify shooting in situations where ambient and flashlight sources are mixed.



### **SHUTTER**

The D4 features a newly designed shutter mechanism, with Keylar/carbon fibre composite blades, which has been tested to 400,000 cycles (up from 300,000 cycles for the D3s). The unit has a shutter speed range of 1/8000 to 30-seconds, with flash sync at 1/250-second; shutter release lag is 42-milliseconds. It has a reduced power drain during Live View and video recording, plus a faster cycling operation to allow a more rapid return to Live View after taking a stills picture, due principally to a new motor that drives the unit. When shooting stills pictures from Live View, with the camera set to its Photography mode, the D4 keeps the reflex mirror in its raised position, so when the shutter release is pressed, the only movement is the operation of the shutter, which is an improvement over previous iterations of Live View operation where the mirror would drop after the shutter release was pressed to enable metering and focusing and be raised again before the shutter opened. Another improvement in Live View when using either A (aperturepriority) or M (manual) exposure modes is to assign powered control of the lens aperture to the front panel Function and Preview buttons for smooth, step-less adjustment of the aperture. Unfortunately this feature is not available during video recording, unless you configure the D4 to output the raw video signal directly from the camera via the HDMI terminal.

The shutter can cycle at up to 10 frames per second (fps) in the FX-format and all crop modes (5:4, 1.2x, and DX) with full autofocus and auto-exposure operation, or up to 11 fps with focus and exposure locked as per the first frame in the sequence. In respect of shutter control, a couple of the Custom Settings menu items have been modified: the Exposure Delay item can be set to 1s, 2s or 3s, rather than being fixed at approximately 1s, as it is in the D3s, while the self-timer can be configured to take up to nine pictures in a sequence, at intervals of 0.5s, 1s, 2s or 3s.

### **AUTOFOCUS SYSTEM**

The Multi-CAM 3500 FX AF module used in the D3-series cameras has been enhanced to provide better low-light AF performance down to -2EV (effectively moonlight), which Nikon claim makes AF in the D4 approximately 20% more light-sensitive than the D3s and, in conjunction with the enhanced Scene Recognition System and significantly quicker Expeed 3 processing that handles the autofocus calculations, improves AF response speed and subject tracking capabilities. The AF system has a total of 51 AF points, with the central cluster of 15 being cross-type sensors sensitive to detail in horizontal and vertical orientations. The user can select a single AF point, or configure 9, 21 or all 51 AF points, with full AF operation possible with any AF Nikkor lens that has a maximum aperture of f/5.6









1: General styling of the D4 is broadly similar to the D3-series camera models 2: The video record button has been placed just behind the shutter release button for convenience 3: The metering pattern selection button is now incorporated in the cluster of controls on the top left of the camera which on the D3-series cameras is located on the side of the viewfinder head 4: A second Function button has been added next to the shutter release button for vertical shooting

or wider. The enhanced sensitivity of the AF system enables it to support AF operation down to a maximum lens aperture of f/8; however, the number of useable AF points is reduced, for example, an AF-Nikkor 600mm f/4 lens combined with a TC-20E III teleconverter, which has a maximum effective aperture of f/8, restricts autofocus to eleven AF points, of which only the central AF point acts as a cross-type sensor. If the maximum aperture is between f/5.6 and f/8, for example, an AF-Nikkor 500mm f/4 lens combined with the TC-17E II teleconverter (maximum effective aperture f/6.7) only fifteen AF points support autofocus operation, with nine of those AF points acting as cross-type sensors. Other AF points can be selected but there is no guarantee that autofocus will function properly.

AF mode and AF-area mode selection has been simplified by re-designing the AF switch on the front of the camera, so it operates in the same way as the AF switch of the D7000. This enables the user to keep their eye to the viewfinder and change AF configuration at will; at default settings pressing the central button of the AF switch and rotating the rear command dial will select the AF mode, which is displayed in the viewfinder, while turning the front command dial will select the AF-area mode. Illuminated AF points, displayed on the camera's focusing screen, indicate the selected AF-area mode.

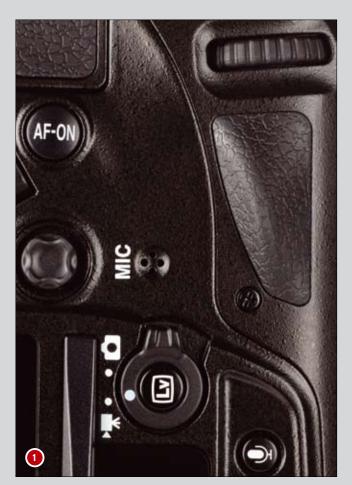
### **VIDEO**

Video is now an accepted feature of any D-SLR and the convergence of technologies in the capture of stills and moving images has become increasingly important in professional D-SLR cameras. In the D4 Nikon has taken several large steps to move their implementation of video forward by a significant margin. The camera offers full HD (1920 x 1080p) resolution with selectable frame rates of 30/25/24, plus HD (1280 x 720p) at 30 and 25 fps, and slow motion at 60, or 50 fps at 720p. The camera employs H.264 compression with B-frame compression, which can use both previous and following frames for data reference to permit the highest amount of data compression. It supports full manual exposure control with the ISO setting selectable anywhere between 200 and 204,800. The maximum duration of a video clip, when recording to an installed memory card, has been extended to almost 30 minutes (approx 29.59 mins).

Other improvements include the ability to index mark specific frames in the timeline during a recording to assist in subsequent editing, remote control of video start/stop via the 10-pin remote accessory terminal (it is possible to use any of the appropriate Nikon remote release accessories, such as the MC-30 or third party options, such as the Pocket Wizard radio control releases), or via a computer connection, and a live

frame grab of a 2MP still image, although this stops recording. Video recording can be performed in one of three frame sizes; full HD (1080p) in both FX and DX based formats, plus a new native full HD format, which is cropped to a pixel-matched 1920 x 1080 size. The video capabilities of the D4 offer further flexibility, since it is possible to output an uncompressed video feed to an external recorder, or monitor via the HDMI port; data is output at 1080i at the selected frame size and frame rate. Dual output is possible when recording in 1280 x 720p via both the video out and HDMI ports. Finally, in addition to the intervalometer feature of the D4 for recording time-lapse photography, it can also encode individual images to produce a time-lapse video direct from the camera. The user sets the interval between exposures, duration of the recording period, the output resolution, plus the frame rate of the video to be created. Once the shooting sequence has begun, the D4 assembles the time-lapse video as each frame is recorded to reduce processing time. The only downside to this in-camera process is that the camera does not retain the original still pictures, so it is not possible to use them as a source to create another time-lapse video subsequently. To produce a time-lapse video in post-processing you can use the camera's intervalometer feature.

Audio has not been overlooked, as there is an external microphone port, with the





1: The camera has been designed to handle as well when held vertically as it does when held horizontally 2: The D4 is the first D-SLR camera to support the new XQD CompactFlash card specification; its primary card slot accepts XQD cards, while the secondary slot accepts standard CompactFlash cards 3: The D4 offers a plethora of external ports, including a dedicated port for the new WT-5 Wireless Transmitter (top left), for the first time in any D-SLR, an external headphone jack (middle left), and an Ethernet port (bottom left) 4: The WT-5 Wireless Transmitter connects directly to the D4 and draws power from the main camera battery





camera providing 20 distinct recording levels, plus an auto-option, and it has a visual monitoring of the audio recording level, which is supplemented by a headphone outport, a first from any D-SLR manufacturer, with 30 selectable volume levels.

### **CARD SLOTS**

The D4 is the first camera to support the new XQD specification and format CompactFlash (CF) memory card that was announced during early December 2011 by the CompactFlash Association, and which is set to replace the venerable CompactFlash (CF) memory card. This is hardly surprising, since Nikon has been instrumental in the development of XQD cards. Unlike CF cards, which are based on the ageing PCMCIA standard, XQD cards are based on PCI Express, with the first generation cards expected to offer write-speeds of 125MB/s, thus offering a distinct speed advantage over virtually all CF and Secure Digital (SD) cards, including the latest SDHC and SDXC variants, available currently, with the potential for significantly faster transfer rates to come as the technology matures. Although about the same thickness, the XQD cards measure 38.5 x 29.8 x 3.8mm, making them about three-quarters the size of a CF card; the primary card slot of the D4 is designed to accept a single XQD CF card.

Sony, which has a symbiotic relationship with Nikon in respect of the design and fabrication of sensors for digital cameras, has already introduced two XQD CompactFlash cards, with capacities of 16GB and 32GB, together with dedicated cards readers; however at the time of writing (March 2012) both SanDisk, who along with Nikon and Sony proposed the XQD card format, and Lexar have stated that they have no plans currently to introduce their own XQD CF cards.

The second card slot in the camera accepts a single CF card, with support for the latest standard (UDMA mode 7) that is designed for a maximum 167MB/s data transfer rate; Lexar has already launched its latest Professional 1000x CF (UDMA-7) cards, which offer a sustained read speed of 150MB/s.

Nikon claim that when recording NEF Raw (12-bit, compressed), the D4 with UDMA-7 CF card has a buffer capacity of 79 frames, while using an XQD CF card the buffer capacity increases to 98 frames; by comparison the D3s with a compatible CF card has a buffer capacity of 43 frames. Shooting Large/Fine JPEGs, the numbers are even larger, with the D4/UDMA-7 CF card combination providing a buffer capacity of 130 frames, and 170 frames with a XQD CF card; by comparison the D3s offers a buffer capacity of just 82 frames.

As in the D3-series cameras, the second card slot can be assigned to perform a number of functions, such as acting as either overflow storage or backup of images recorded to the card in slot 1, separate

The level to which the company has obviously embraced feedback from real world photographers is very encouraging, as this has not only guided them in the enhancement of features inherited from other Nikon D-SLR cameras, but also influenced the introduction of innovative new ones... "



storage of NEF Raw and JPEG files when recording in both formats simultaneously or recording stills to one card and video to the other. Obviously, this will require investment in new memory cards of the XQD standard and carrying memory cards of two different formats, if the dual card slot capabilities of the D4 are to be realized.

### **BATTERY**

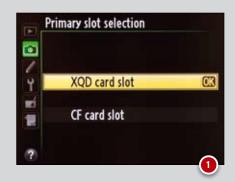
The D4 features a new battery, the EN-EL18 (10.8 V, 2000 mAh) that requires the BL-6 battery chamber cover, and a new twinbattery charger, the MH-26. The reasons behind the introduction of an entirely new battery are two-fold: first, a change in Japanese legislation pertaining to new battery regulations, and second, the desire to provide a battery that would surpass the performance of the well-regarded EN-EL4a battery for the D3-series, when the D4 is used in the shooting conditions typical of its target market.

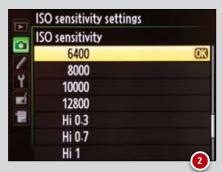
However, at first glance the EN-EL18, which has a significantly lower capacity compared with the EN-EL4a (11.1V/2500mAh) battery for the D3-series cameras, seems to represent a step backward, and a rather large one at that! Especially when you look at the results of testing for the two battery types, with the EN-EL18 enabling the D4 to record up to 2,600 exposures in singleframe mode per battery charge, compared with 4,200 exposures with the D3s and EN-EL4a (figures based on CIPA standard). According to Nikon the EN-EL18 has been optimized for a situation where the D4 spends more time fully active, performing autofocus, supporting VR (Vibration Reduction) and firing its shutter than at rest. In an active state the EN-EL18 is claimed to provide more exposures per full charge (5,200) compared with the EN-EL4a in a D3s.

A seemingly irksome aspect of the D4 and EN-EL18 is their incompatibility with the EN-EL4 /EN-EL4a batteries and the MH-21 and MH-22 chargers for the D3-series cameras, because the battery connector terminals are in different positions. The reason for this, according to Nikon, is the different battery chemistry and recharging characteristics of the EN-EL18, which would result in incomplete charging of the new battery in the older chargers, and a reduced performance from the D4 if it were to use the older batteries.

### WORKFLOW

Many branches of contemporary professional photography depend not only on the speed of initial acquisition of an image or video file but the ability to disseminate them quickly and efficiently. Regardless of whether you are a press photographer covering a breaking news story, a sports shooter working to tight publication deadlines, or an event photographer needing to supply pictures to clients in real time, the D4 has clearly been designed to facilitate a photographer's

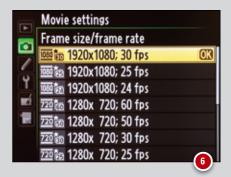


















- The camera offers a full range of resolution and frame rates when recording video
   The video capabilities of the D4 have been
- enhanced significantly over its predecessor

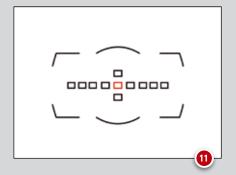
  8: It is possible to control and monitor the recording
- level of audio automatically or manually

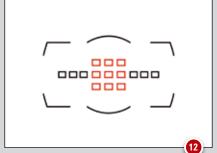
  9: The D4 can be connected to a computer network
  either wirelessly or via a hard wire connection
- 10: The 'Virtual horizon' display works in two planes 11: The D4 has extended sensitivity for autofocus, allowing the camera to operate with lenses or lens/teleconverter combinations where the maximum aperture is between f/5.6 and f/8. At f/8 the AF points shown in the display are available;

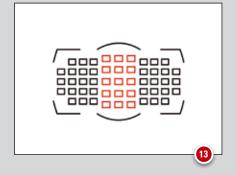












It is quite clear that Nikon have left no stone unturned in developing the D4; it represents a significant reworking of its predecessors, with every system in the camera having been revised, or overhauled.



workflow. It is the first Nikon D-SLR to support standard IPTC metadata, offering 14 separate fields for the user to assign key information to the image file, including the nature of the subject, the shooting location, authorship/ownership of the image, copyright information and so on. Since tens, if not hundreds of photographers cover many high profile events, the reliability and sustainability of wireless networks is often questionable, so the D4 has a built-in wired Ethernet LAN port (supports 10 Base T/100 Base TX). On those occasions where a wireless connection is feasible, the D4 has a new dedicated wireless transmitter, the Nikon WT-5, which supports the 802.11 a/b/g/n standards, to work with both infrastructure and ad-hoc networks (there is also retrospective support for the earlier WT-4 wireless transmitter). The WT-5 can also be used for linked release of up to 10 remote cameras simultaneously. Much smaller than its predecessors, the new transmitter connects directly to a dedicated port on the left side of the camera, from where it draws power directly from the main camera battery. In addition to the established FTP and PC control modes for use of the D4 across a wireless network, the camera also features a new, built-in HTTP connection mode that uses software built into the camera, which offers direct connection with a web browser application run on a computer or mobile device such as an Apple iPhone or iPad for remote control of the camera, remote viewing of Live View and remote image review and download functions. The D4 is also fully compatible with the Nikon GP-1 GPS unit, including the ability to set

the internal camera clock from the UTC time code in the GPS signal.

Other features of the D4 that can help to save time and reduce steps in a workflow include four image area options for stills pictures, the traditional 3:2 (36 x 24 mm) aspect ratio, plus a 5:4 (30 x 24 mm), 1.2x (30 x 20 mm) and DX-format 23.4 x 15.5 mm) options. A broad range of in-camera editing tools, a High Dynamic Range (HDR) feature that records one overexposed and one underexposed frame in a single shutter release, with a difference in exposure level of up to 3EV, and refined white balance control offering colour temperature adjustment in steps of 10-Kelvin.

### **SUMMARY**

It is quite clear that Nikon have left no stone unturned in developing the D4; it represents a significant reworking of its predecessors, with every system in the camera having been revised, or overhauled.

The level to which the company has obviously embraced feedback from real world photographers is very encouraging, as this has not only guided them in the enhancement of features inherited from other Nikon D-SLR cameras, but also influenced the introduction of innovative new ones, for example, the considerable development of the video and networking capabilities.

You would expect any manufacturer to incorporate the latest technologies in

a state of the art camera but unless the camera in which they are implemented can be used effectively and efficiently it will probably never realise its full potential.

In this respect the close attention that has been paid to the details of ergonomic design in the D4 and its extensive configurability will undoubtedly make a significant contribution to the success of the camera.

First impressions can at times be deceptive; however, if the specification and initial results of the D4 live up to expectations, it should be a very worthy successor to the D3/D3s, and probably the best Nikon D-SLR yet made!



## **Nikon** AWARDS CRYSTAL TROPHY TO GRAYS OF WESTMINSTER

for Twenty-five Years of Outstanding Contribution to Nikon Users



### By Gillian Greenwood

Gillian Greenwood, Nikon Owner magazine Features Editor and author of *In the Company of Legends . . . a history of Grays of Westminster*, recalls a unique occasion at The Goring Hotel.

The sky was a blue wash of watercolour that day, cloudless and still, with only the pale remnants of vapour trails in the distance, abstract lines on a cobalt canvas. The black cab sped along The Mall towards Buckingham Palace, passing St. James's Park on its left, the oldest of the Royal Parks of London; we sat quietly at the back of the cab in anticipation of the event ahead. At the far end of the park, a heron stood in silence like some ancient stone artifact and water birds huddled motionless in the long reeds at the edge of the lake as if waiting for some implicit stage direction. Then it began, here and there a whisper of movement, a faint murmur of sound as a slight breeze moved across the





body of water, a shimmer of reflected light half-seen through the muted green of the trees, and the sky was at once filled with the eager cries of seagulls and vociferous geese.

In a moment we were there, outside The Goring, the blue awning with its scripted initial G in front of us, the doormen with their distinctive livery, pleasant and welcoming, as we were led to the dining room which looked onto the magnificent Goring Gardens.

It was Tuesday, 26th July 2011 and Grays of Westminster were about to be presented with a stunning, heavy crystal trophy by the Managing Director of Nikon UK, Mr. Michio Miwa during a celebratory luncheon at The Goring, the exclusive London hotel close to Buckingham Palace.

The Goring, the hotel in which Kate Middleton stayed before her marriage to Prince William, was the venue chosen by Nikon to celebrate the occasion of twenty-five years of Grays of Westminster. The Goring is considered to be a favourite address for anyone looking for the quintessentially English hotel close to both the Palace and Westminster. Grays of Westminster is situated just a short distance away, perhaps likewise a favourite destination for a Nikon user seeking the widest range of Nikon camera equipment in the world. It was founded a quarter of a century ago by Gray Levett who had the idea of creating a world-class camera store which would offer a service second to none.

Amongst those taking part in the celebrations was Richard Young, the UK's most successful celebrity photographer, Mike Maloney OBE, Britain's most decorated press photographer, Damien Demolder Editor of *Amateur Photographer*, Nigel Atherton Editor of *What Digital Camera*, Andrew Main Wilson Chief Operating Officer of the IoD (Institute of Directors), founder Gray Levett, codirector Uri Zakay, as well as senior staff from Nikon UK, and myself.

The distinguished actor David Suchet CBE and long-term customer sent a message with his regrets, "Thanks so much, but sadly can't be with you, filming Great Expectations for the BBC, playing Jaggers. Have a wonderful celebration. Congratulations!!! Love David."



"I would like to take this opportunity to congratulate you on such a momentous occasion and would like to express our gratitude for your support of the Nikon brand." – Mr. Michio Miwa, Managing Director of Nikon UK

After a magnificent lunch, Mr Michio Miwa read out a letter from the President of the Nikon Corporation: "Grays of Westminster is a well-known and respected business that has become almost a household name amongst professional photographers during the past twenty-five years. This is no doubt a result of your commitment to your customers and understanding of the Nikon brand.

"I would like to take this opportunity to congratulate you on such a momentous occasion and would like to express our gratitude for your support of the Nikon brand. I am looking forward to a continued mutually beneficial relationship during the coming years."

He added "[Grays of Westminster] is a long-standing institution in the photo industry. I would like to present a trophy to Gray to commemorate such a significant achievement."

"Congratulations from Nikon."

The trophy, which features a 3D image of the legendary Nikon F camera laser-



The Honour Board which hangs in the main showroom at Grays of Westminster

etched into the award, reads: "Presented to Grays of Westminster to celebrate their 25th Anniversary and their outstanding contribution to Nikon users." – Nikon UK Limited. They were also presented with a magnificent Japanese plate as a gift from the President of Nikon Imaging in Japan.

Receiving these awards, Gray Levett said: "This is a significant moment in our history. I am delighted and honoured to receive this beautiful crystal trophy and exquisite plate from Nikon. Grays of Westminster started a quarter of a century ago from humble beginnings with just £100 and no stock to speak of; to be accepting this award in the grand surroundings of The Goring today is something I could have hardly imagined.

"Grays of Westminster have what is probably the widest range of new, second-hand and vintage Nikon in the world. From the very beginning we aimed at offering our customers the very best service and the finest in Nikon equipment. This tradition continues today. The fact that we have survived over the last twenty-five years has been made possible by our very loyal customers, the hard work of all of our staff and our strong relationship with Nikon UK and Nikon Japan."

Grays of Westminster has been described by many as an 'Aladdin's Cave' thanks to its impressive range of equipment which ranges from the latest cameras to the oldest, rarest models.

"Grays of Westminster started a quarter of a century ago from humble beginnings with just £100 and no stock to speak of; to be accepting this award in the grand surroundings of The Goring today is something I could have hardly imagined."

- Gray Levett









### ORIGINAL **Nikon** Instruction Manuals

From the **Grays of Westminster Book Room** we can often supply original instruction manuals for discontinued Nikon camera equipment. We also have some original Nikon sales brochures too. As our stock is too large to list here and is constantly changing, we would ask you email us **info@graysofwestminster.co.uk** with your requirements or if you prefer, you can telephone us **020** 7828 4925.

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### **New Subscriber Application**

### No. 1 Nikon magazine

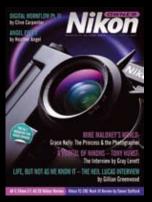
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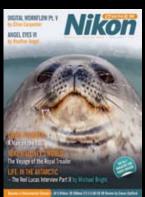




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### Nikon D7000

by Simon Stafford



The Nikon D7000 has been an instant 'hit' with photographers, enthusiast and professional alike, winning wide acclaim for its high image quality and impressive feature set. This Magic

Lantern Guide book to the Nikon D7000 has been written to help you make the most of this innovative camera.

Completely re-designed and in full colour, the book has nearly 400 pages, and comes with a laminated quick reference card; packed with information explaining how to use the camera to its maximum potential, it contains plenty of hints and tips that you will not find in the manufacturer's manual, together with numerous pictures taken by the author.

Soft cover £15.00 plus £3.00 postage & packing within the UK.

### Nikon D7000 CLS Flash Companion by Simon Stafford



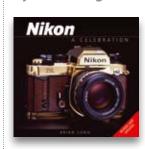
Written to provide an in-depth look at the Nikon Creative Lighting System (CLS) and, how to make the most of it when shooting with the D7000, this book is packed with information, including detailed descriptions of the

Nikon CLS Speedlights, and the features of the CLS, such as the Advanced Wireless Lighting system, plus flash shooting techniques. Printed in full colour, the book has over 200 pages filled with hints and tips that you will not find in the manufacturer's manuals, together with numerous pictures taken by the author using the CLS.

Paperback, 224 pages, 18.8 x 12.4 x 1.3 cm. £15.00 plus £3.00 postage & packing within the UK

### Nikon – A Celebration Revised & Updated

by Brian Long



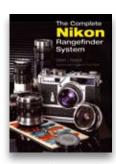
Extensively revised and updated for 2011, this stunning book is much more than just a history of the high-quality

cameras and lenses that have made the Nikon brand a household name - it is also a chronicle of the birth of this most famous of Japanese photography equipment manufacturers and the way in which it has evolved down the years to keep abreast of advances in technology and ahead of the competition. Heavily illustrated throughout the main chapters with rare archive material from around the world, and augmented by a feast of original shots and pictures of the cameras in use, the text is backed up by extensive appendices containing everything the avid Nikon collector needs to know.

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### The Complete Nikon Rangefinder System

by Robert J. Rotoloni



Written by the founder of the Nikon Historical Society and publisher of the Nikon Journal, this huge new edition has 1350 black and white illustrations plus 24 pages of full colour by

master photographer Tony Hurst.

It is a most comprehensive guide to Nikon's rangefinder system.

Hardcover, 528 pages, size: 26 x 19.5cm. Weight: 2111g, Cost £55.00 plus £10.00 postage & packing within the U.K.

### Magic Lantern Guide: Nikon D3x/D3s by Simon Stafford



Nikon's two flagship D-SLR cameras are described comprehensively in this new book. Completely redesigned and in full colour, the book has nearly 400 pages, and comes with a laminated quick

reference card; packed with information explaining how to use the cameras to their maximum potential, it contains plenty of hints and tips that you will not find in the manual, together with numerous pictures that taken by the author using the cameras.

This title joins Simon Stafford's other books in the Magic Lantern Guide book series on the Nikon D3, D700, D300, D200, D80, D70/70s, D60, D50, D40x, D40 and the Nikon AF Speedlight system.

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# RESOLUTION REVELATION

SIMON STAFFORD takes a close look at the D800.



Nikon has stepped off to a very busy start to 2012, as a few weeks after announcing the D4 (see my preview of the camera in this issue) the company launched its latest 'compact' FX-format sensor D-SLR, the Nikon D800, together with a specialised variant, the D800E, which is identical except it lacks any anti-aliasing properties in its sensor's filter array.

The D800, which is manufactured exclusively at Nikon (Sendai), Japan, alongside the D4, features a newly developed 36.3-million (effective) pixel Nikon FX-format (39.5 x 24 mm) CMOS sensor, providing a maximum resolution of 7,360 x 4,912 pixels, or to put it another way, at a file resolution of 300 ppi (pixel per inch), the camera can produce a 24.5 x 16.3 inch (62 x 41cm) print without any interpolation. This wholly new sensor specification sets the D800 apart from the D4 as an entirely different tool, which is aimed squarely at the professional and dedicated enthusiast photographers seeking to record extremely high-resolution images.

While the D4 and D800 may offer significantly different resolutions, the two

models share a number of features and functions, including the same 91,000-pixel RGB ambient/flash metering sensor, the same revised 51-point AF system with increased sensitivity to support autofocus when using a lens or lens/teleconverter combination that has a maximum aperture of f/8, the same EXPEED 3 image processing, the same start-up time (approx. 0.12 seconds) and shutter-lag time (0.042 seconds), the same 1080p video capture and audio monitoring, uncompressed video output via the HDMI port, plus enhanced in-camera processing, including an HDR function and creation of time-lapse video.

Specifications specific to the D800 include a standard ISO range of 100-6,400

(extendable to 50-26,600), new shutter unit that has been tested to 200,000 cycles and capable of 4 fps (frames per second) in the FX format or 5:4 crop mode, and up to a maximum of 5 fps in the DX format or 1.2x crop mode. The camera has two memory card slots, with the CompactFlash (CF) slot compatible with the latest UDMA-7 standard CF cards, while the Secure Digital (SD) slot is compatible with Secure Digital Extended Capacity (SDXC) and UHS-1 standards. Unlike the D4, there is no new battery for the D800, as it uses the existing Nikon EN-EL15, the same as the D7000 camera; however, there is a new optional battery pack, the MB-D12. As you would expect, the D800 is fully compatible with the Nikon Creative Lighting System and Nikon Speedlight flash units, including the latest SB-910.

Prior to and since the official announcement, I have had the opportunity to spend a little time taking a close look at the D800. The following is a summary of its key features and functions, together with my first "hands on" impressions of the camera.

### **SENSOR**

The new FX-format (24.0 x 35.9 mm) CMOS sensor developed by Nikon has over three times the number of pixels as the sensor used in the D700. It provides image dimensions of 7,360 x 4,912 pixels at full resolution. While in its DX crop mode the camera has a resolution of 15.3 million pixels (4,800 x 3,200 pixels), compared with the 16.2 million pixel (4,928 x 3,264) full resolution of the DX-format Nikon D7000, at its maximum resolution the D800 produces a file size of 74.4MB (NEF Raw 14-bit, uncompressed), 41.3MB (NEF Raw 14-bit, lossless compressed) or 32.4MB (NEF Raw 12-bit, lossless compressed).

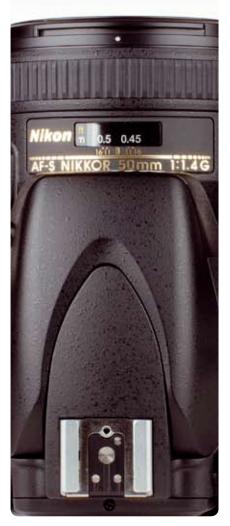
The camera offers a normal ISO range of 100 to 6,400, adjustable in 1/3EV, 1/2EV, or 1.0EV steps, plus an extended range of Lo 1 (ISO 50 equivalent) in 1/3EV steps, up to Hi-1 (ISO 12,800) in 1/3EV steps, and up to Hi-2 (ISO 25,600) in 1EV step.

Supporting the new sensor is Nikon's third-generation image processing regime, EXPEED 3 that handles 14-bit analogue-to-digital conversion, followed by 16-bit image processing. Data processing is claimed to be significantly faster (it is specified at 30% quicker) than the EXPEED 2 processing of current Nikon D-SLR cameras, with enhanced noise reduction algorithms that produce cleaner stills and video files, even at high ISO settings. Image files can be saved in the proprietary Nikon NEF (Raw) in 12 or 14-bit as lossless compressed, compressed or uncompressed, as well as in the TIFF (RGB), and JPEG formats.

### **SHUTTER**

The D800 features a newly designed shutter mechanism, with Kevlar/carbon

The D800, which is manufactured exclusively at Nikon (Sendai), Japan, alongside the D4, features a newly developed 36.3-million (effective) pixel Nikon FX-format (39.5 x 24 mm) CMOS sensor, providing a maximum resolution of 7,360 x 4,912 pixels 55



fibre composite blades, which has been tested to 200,000 cycles (up from 150,000 cycles for the D700). The unit has a shutter speed range of 1/8000 to 30 seconds, with flash sync at 1/250 second. It has a reduced power drain during Live View and video recording, plus a faster cycling operation to allow a more rapid return to Live View after taking a stills picture, due principally to a new motor that drives the unit. When shooting stills pictures from Live View, with the camera set to its Photography mode, the D800 keeps the reflex mirror in its raised position, so when the shutter release is pressed, the only movement is the operation of the shutter, which is an improvement over previous iterations of Live View operation where the mirror would drop after the shutter release was pressed to enable metering and focusing and be raised again before the shutter opened.

The shutter can cycle at up to 4 fps (frames per second) in the FX format or 5:4 crop mode, and up to a maximum of 5 fps in the DX format, or 1.2x crop mode, with full support of AF and auto-exposure operations. Addition of the optional MB-D12 Battery Pack raises the maximum frame rate to 6 fps in the DX format when fitted with batteries other than the EN-EL-15.

### **CARD SLOTS & BUFFER CAPACITY**

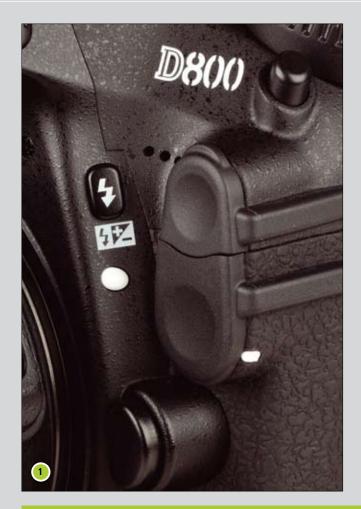
The D800 has two memory card slots, with the CompactFlash (CF) slot compatible with the latest UDMA-7 standard CF cards, while the Secure Digital (SD) slot is compatible with Secure Digital Extended Capacity (SDXC) and UHS-1 standards.

Shooting stills pictures in the FX format, recording NEF Raw files at 14-bit and uncompressed, the camera's buffer memory has the capacity for 16 frames. Recording NEF Raw files, at 12-bit and lossless compressed, the file size is reduced, so the buffer capacity is increased to 21 frames. In the smaller DX format, when recording NEF Raw files, at 14-bit and uncompressed, the camera's buffer memory has the capacity for 25 frames, while a JPEG file at the highest resolution in the FX format produces a file of approximately 16.3MB and 8.0MB in the DX format, with a buffer capacity of 56 and 100 frames, respectively.

The second card slot can be assigned to perform a number of functions, such as acting as overflow storage from the card in the primary slot, back-up of image recorded to the card in the primary slot, separate storage of NEF Raw and JPEG files when recording in both formats simultaneously, or recording stills to one card and video to the other.

### METERING

The D800 incorporates the same all-new 91,000-pixel RGB sensor for its 3D Color Matrix metering III system as the D4. The metering system is fully integrated with the AF and auto-exposure systems, in





1: External buttons are large and easy to operate 2: The release mode dial now incorporates four buttons 3: The external ports: (from top) external stereo microphone, USB (supports USB 3.0 standard), HDMI and headphone socket 4: The D800 has two memory card ports: one for CompactFlash, the other for Secure Digital









what Nikon call their Advanced Scene Recognition System. Unlike metering sensors used by other manufacturers that group pixels into segments, the metering sensor of the D800 uses each pixel as an individual sampling point, which not only improves scene analysis for increased exposure accuracy but also improves the abilities of the AF system, in particular its subject tracking capabilities, even with subjects that are small within the frame area. This increased sampling of the scene also enables the D800 to recognise human faces within the frame and report their location to the AF system, when it is set to Auto-area AF, plus optimise exposure accordingly, even in difficult lighting conditions.

### **AUTOFOCUS SYSTEM**

The Multi-CAM 3500 FX AF module used in the D3-series cameras has been enhanced to provide better low-light AF performance down to -2EV (effectively moonlight), which Nikon claim makes the D800 approximately 20% more light-sensitive than the D3s and, in conjunction with the enhanced Scene Recognition System, improves AF response speed and subject tracking capabilities. The AF system has a total of 51 AF points, with the central cluster of 15 being cross-type sensors sensitive to detail in horizontal and vertical orientations (same as the D4). The user can select a single AF point or configure 9-, 21-, or all 51-AF points, with full AF operation possible with any AF Nikkor lens that has a maximum aperture of f/5.6, or wider. The enhanced sensitivity of the AF system enables it to support AF operation

down to a maximum lens aperture of f/8; however, the number of useable AF points is reduced; for example, an AF-Nikkor 600mm f/4 lens combined with a TC-20E III teleconverter, which has a maximum effective aperture of f/8, restricts AF to eleven AF points, of which only the central AF point acts as a cross-type sensor. If the maximum aperture is between f/5.6 and f/8, for example, an AF-Nikkor 500mm f/4 lens combined with the TC-17E II teleconverter (maximum effective aperture f/6.7) only fifteen AF points support AF operation, with nine of those AF points acting as cross-type sensors. Other AF points can be selected but there is no guarantee that autofocus will function properly.

AF mode and AF-area mode selection has been simplified by re-designing the AF switch on the front of the camera, so it operates in a similar way to the AF switch of the D7000. At default settings pressing the central button of the AF switch and rotating the rear command dial will select the AF mode, which is displayed in the viewfinder, while turning the front command dial will select the AF-area mode. Just like the D4, the D800 uses patterns of illuminated AF points to display the selected AF-area mode on the camera's focusing screen, while the AF mode is displayed along the bottom of the viewfinder display, which enables the user to keep their eye to the viewfinder and change AF configuration at will.

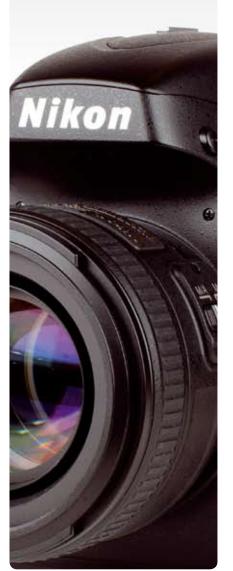
### VIDEO

Video is now an accepted feature of any D-SLR and the convergence of technologies in the capture of stills and moving images has become increasingly important in professional D-SLR cameras. In the D800 Nikon has mirrored its implementation of video in the D4, with just one exception; the D800 offers only two crop options in video, FX and DX, both at an aspect ratio of 16:9, while the D4 has three crop options. Even so, the two models offer probably the best video/audio capabilities of any D-SLR camera to date, with the advantage of seamless continuity in operation.

The D800 provides full HD (1920 x 1080p) resolution with selectable frame rates of 30/25/24, plus HD (1280 x 720p) at 30 and 25 fps, and slow motion at 60 or 50 fps at 720p. The D4 employs H.264 compression with B-frame compression, which can use both previous and forward frames for data reference to get the highest amount of data compression. It supports full manual exposure control with the ISO setting selectable anywhere between 100 and 25,800. The maximum duration of a video clip, when recording to an installed memory card, is almost 30 minutes (approx 29.59 mins).

Other improvements include the ability to index-mark specific frames in the timeline during a recording to assist in subsequent editing, remote control of video start/stop via the 10-pin remote accessory terminal

The D800 is constructed around a rugged, lightweight magnesium alloy body shell, which is sealed against the ingress of moisture and dust to the same level as its predecessor, yet the D800 is approximately 10% lighter than the D700...



(it is possible to use any of the appropriate Nikon remote release accessories, such as the MC-30 or third party options such as the Pocket Wizard radio control releases) or via a computer connection and the live frame-grab of a still image, although this interrupts recording. As mentioned, video recording can be performed in two frame sizes; full HD (1080p) in both FX and DX based formats. The video capabilities of the D800 offer further flexibility, since it is possible to output an uncompressed video feed to an external recorder or monitor via the HDMI port. Finally, the D800 has a built-in feature for recording time-lapse sequences; it records then encodes the individual images to produce a timelapse video direct from the camera. The user sets the interval between exposures, duration of the recording period, the output resolution, plus the frame rate of the video to be created, which can set from 24 times to 36,000 times faster than normal. Once the shooting sequence has begun, the D800 assembles the time-lapse video as each frame is recorded to reduce processing time. The only downside to this in-camera process comes from the camera not retaining the original still pictures, so it is not possible to use them as a source to create another time-lapse video subsequently. To produce a time-lapse video in post-processing you can use the camera's intervalometer feature.

Audio has not been overlooked, as there is an external microphone port with the camera providing 20 distinct recording levels, plus an auto option. The D800 provides a visual monitoring of the audio recording level, which is supplemented by a headphone out-port with 30 selectable volume levels.

### **CAMERA HANDLING**

The D800 is constructed around a rugged, lightweight magnesium alloy body shell, which is sealed against the ingress of moisture and dust to the same level as its predecessor, yet the D800 is approximately 10% lighter than the D700. In the hand the camera feels robust, with a very high-build quality. All the controls fall comfortably to hand when holding the camera for a horizontal picture, and almost so when shooting vertically without the additional MB-D12 battery pack/grip.

The camera has undergone some subtle changes to its exterior control layout compared with the D700, as well as improvements to its rear monitor screen. The overall size of the D800 at 146 x 123 x 81.5mm / 5.7 x 4.8 x 3.2 inch is almost exactly the same as the D700 at 147 x 123 x 77mm / 5.8 x 4.8 x 3.0 inch (W x H x D), while profile of the two models is also broadly similar, as is their weight at 900g (1lb 15.7oz) and 995g (2lb 3oz) respectively, body only without battery or memory cards.

A significant improvement is the 100% frame coverage provided by the optical









1: The video record button (red dot) is positioned just behind the shutter release button 2: The TTL metering pattern is selected via the collar around the exposure/focus lock button 3: In the FX format the camera has a maximum frame rate of 4 fps 4: The camera is powered by a single Nikon EN-EL15 rechargeable battery

viewfinder, up from just 95% horizontal and vertical of the D700, to provide an unobstructed view in stills shooting when using the FX format. While on the rear of the camera, the 921,000-dot LCD monitor screen has increased in size to 8cm (3.2 inch) across its diagonal. To the right side of the screen is an ambient light sensor that is used to adjust the brightness of the screen automatically, if required, to improve the use of Live View in both bright and low-light conditions. The screen has a wide viewing angle and its clarity has been enhanced by bonding the screen panel to the inside surface of its protective glass cover to reduce surface reflections and light loss.

The front edge of the top plate has been reshaped around the shutter release button, which together with its surrounding On/Off switch collar has a flatter profile, so it slopes down at a steeper angle compared with the D700, making it more comfortable to rest the index finger on the release button for protracted periods. Set just behind the shutter release is a dedicated record button for video; this location was chosen to make the button accessible in an instant and also minimise disturbance to camera handling when switching between shooting stills and video, although unlike the D4, I found the position of the video button a little too close to the Mode button, which makes differentiation between them by touch alone less positive.

By incorporating the AF-area mode selection in the AF mode button on the front of the D800, the AF-area selector switch on the rear panel of the D700 is no longer required, which makes room for the new style Live View selector switch, for selecting Live View for shooting stills or video. In Live View, when the D800 is set for stills shooting in either A (aperture-priority) or M (manual) exposure modes, it is possible to assign powered control of the lens aperture to the Function (Fn) and Preview (Pv) buttons located on the front of the camera for smooth, step-less adjustment of the aperture (note this feature only works in Live View; it does not work when the camera is recording video, unless the video signal is output direct from the camera via the HDMI port). While on the subject of the Fn and PV buttons, they have a lower profile but noticeably larger surface area, which makes them easy to operate, even when wearing gloves.

Other features of the D800 that can help to enhance operational efficiency of the camera include four image area options for stills pictures, the traditional 3:2 (36 x 24mm) aspect ratio, plus 5:4 (30 x 24mm), 1.2 (30 x 2mm) and DX-format (23.4 x 15.5mm) options. A broad range of in-camera editing tools, a High Dynamic Range (HDR) feature that records one over-exposed and one under-exposed frame in a single shutter release, with a

Other features of the D800 that can help to enhance operational efficiency of the camera include four image area options for stills pictures, the traditional 3:2 (36 x 24mm) aspect ratio, plus 5:4 (30 x 24mm), 1.2 (30 x 20mm) and DX-format (23.4 x 15.5 mm) options.









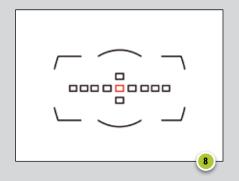


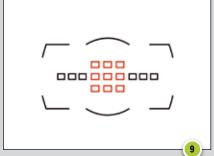


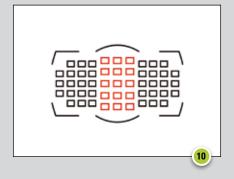


- 1: The 'Secondary slot selection' menu display
- 2: The camera offers four different image crop options
- 3: The D800 can be configured to shoot a series of multiple exposures, using the same settings for each sequence
- **4:** The camera offers a full range of resolution and frame rates when recording video
- 5: It is possible to control and monitor the recording level of audio automatically or manually
- 6: When the optional MB-D12 battery pack is attached to the D800 it is possible to choose the order in which batteries are used
- 7: The 'Virtual horizon' display works in two planes indicating both tilt and pitch of the camera
- **8:** The D800 has extended sensitivity for autofocus; at f/8, 11 AF points are available
- at f/8, 11 AF points are available

  9: Between f/8 and f/5.6, 15 AF points are available
- **10:** All 51 AF points operate at, or above, a maximum aperture of f/5.6







difference in exposure level of up to 3EV, and refined white balance control offering colour temperature adjustment in steps of 10-Kelvin. The shutter release mode dial on the left side of the viewfinder head of the D800 (as viewed from behind the camera) has been redesigned to incorporate a fourth button for exposure bracketing (the other three control WB, ISO and image quality/size respectively), and its dedicated lock button is far more prominent compared with the same button on the D700, which again aids the general handling characteristics of the D800.

The Auto ISO control of the D800 has a couple of new refinements; first, it has automated control of the minimum shutter speed to maintain a balance between the shutter speed and ISO sensitivity setting based on the focal length of the lens being used to help reduce the risk

of camera shake. Second, the Auto ISO feature can be switched on/off directly by pressing the ISO button and rotating the front command dial, obviating the need to navigate the menu system to achieve this as is necessary with the D700. There is also direct access to the Nikon Picture Control System from the image protect button, located to the left of the monitor screen; you just press the button and rotate the rear command dial to select and set the required Picture Control, without having to enter the menu system.

The D800 also has the same twin-axis virtual horizon feature of the D4 that operates in both Live View and in the viewfinder to provide an indication of whether the camera is tilted up or down (pitch), in addition to whether it is tilted either to the left or right; in Live View a horizon line is superimposed over the image shown on the monitor screen, while in the viewfinder display,

horizontal and vertical indicators are superimposed over the image area to show the pitch and roll attitude of the camera.

As far as connectivity is concerned the D800 has four ports located under a single, large rubber door on the left side of the body: a 3.5mm jack for an external stereo microphone, a USB 3 interface, a 3.5mm jack for connecting headphones, and an HDMI interface. The camera is also compatible with the Nikon WT-4 Wireless Transmitter, although it does not support the new WT-5 introduced with the D4. The camera has the standard Nikon 10-pin terminal for connecting remote control accessories, such as the MC-30 cable release, and is also fully compatible with the Nikon GP-1 GPS unit, including the ability to set the internal camera clock from the UTC time code in the GPS signal. There is a normal PC flash sync terminal on the front of the camera as well.



### **BATTERY & POWER OPTIONS**

The D800 body can accommodate a single Nikon EN-EL15 (7.0V 1900 mAh) rechargeable Lithium-ion battery, the same battery used by the D7000. Based on CIPA Standards testing, it will power the camera for 900 stills pictures on a full charge, which compares quite favourably with the D700 with its EN-EL3e (7.4V 1500 mAh) battery that can support the camera for 1000 exposures under the same test conditions.

To increase shooting capacity and increase the maximum frame rate in the DX format, there is the optional MB-D12 Battery Pack that accepts a variety of power sources: either a single EN-EL15 or single EN-EL18 rechargeable Lithium-ion battery (this is the new battery for the D4) with the dedicated BL-5 battery chamber cover, or alternatively eight AA / LR-6 sized alkaline, NiMH, or lithium batteries. The MB-D12 provides a duplicate pair of command dials, a vertical shutter release button, together with an AF-ON button and AF-point selector switch. It too has a robust build-quality, as it is constructed around a magnesium alloy shell and is sealed to the same standards as the D800 body.

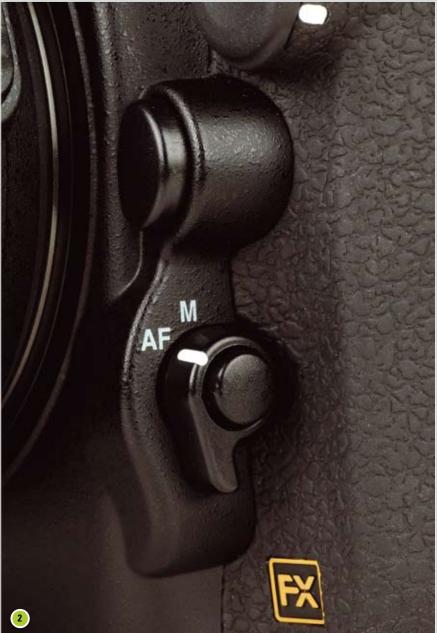
### **SHARPER SHOOTER - THE NIKON D800E**

In addition to the D800, the Nikon Corporation has announced a special version of the camera that has a modified optical filter array in front of its imaging sensor. The anti-aliasing (AA) properties of the filter array have been removed, while it retains









1: The Function and Preview buttons inside the right-hand finger grip can be configured to perform a number of roles 2: The D800 has adopted the same AF mode and AF-area mode button configuration of the D7000

distance and nature of the subject, to enable them to mitigate the occurrence of moiré, it offers the potential of increased resolution over the D800.

### MISSING IN THE D800 / D800E

While many aspects of the specification of the D800 / D800E can be found in the professional 'flagship' D4 camera, there are some things that remain exclusive to the D4. In the D4 there is an option to decouple the application of exposure compensation, so it is only applied to the ambient light exposure and does not affect the flash output level; the D800 lacks this option, so just as with all other Nikon D-SLR cameras, exposure compensation is applied to both the ambient exposure and the flash output level when shooting with a compatible Nikon Speedlight. Unlike the D4, the D800 does not offer the option of embedding IPTC metadata into image files as they are recorded.

In Live View the D4 has an option for completely silent stills shooting; in this mode the camera can be configured to record JPEG files (up to 1920 x 1080 pixels), at a frame rate of either 12fps or 24fps, and since the reflex mirror remains in its raised position and the exposure time is controlled electronically (the mechanical shutter is not used), the camera does not make a sound. This feature is not available on the D800.

### **SUMMARY**

The D800 may bear a remarkable resemblance in terms of size, weight, and external appearance to the D700, but that is where any similarity ends. In terms of its resolution, feature set, functionality, and handling characteristics it's an altogether very different camera. How different? Well here is an extract from a commentary on the D800, published in the Nikon sales brochure for the camera, from Jim Brandenburg, the American wildlife and natural history photographer, who spent time working with Nikon during its development: "It was not love at first sight. The sharpness and detail were initially intimidating, exposing my flaws like never before. Subtle camera movements showed and differences of acuity between aperture choices on various lenses were apparent. But now I am enthralled with this technology. Why? Because the images almost feel as though they were made with a 4 x 5 view camera!"

It is early days, so we will not know for certain how the extraordinarily high resolution of the D800 / D800E will convert into overal image quality until there has been a full and proper opportunity to use the cameras in real world conditions, but there is every indication that it will be highly impressive. Coupled to its enhanced TTL metering, more sensitive AF, extensive video capabilities and intuitive handling, the D800 / D800E might well be the only SLR camera you will ever need!

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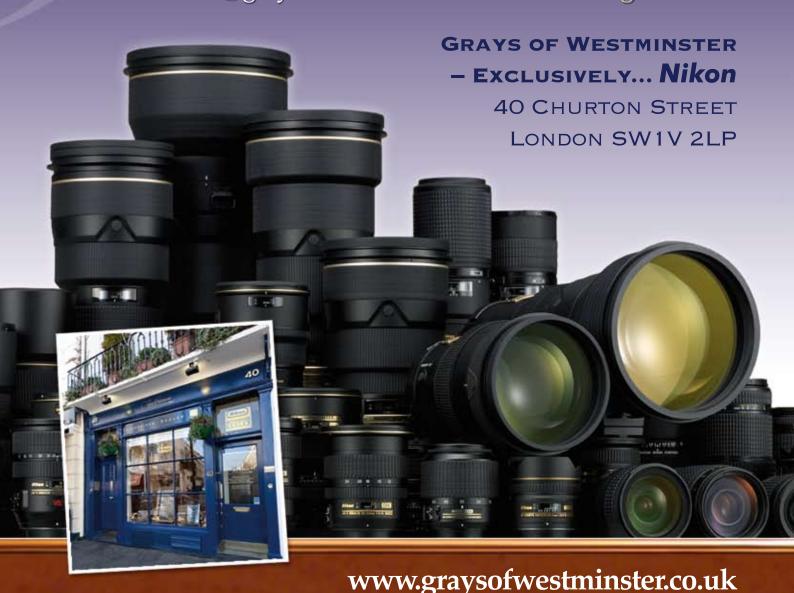
34 THE GRAYS OF WESTMINSTER GAZETTE

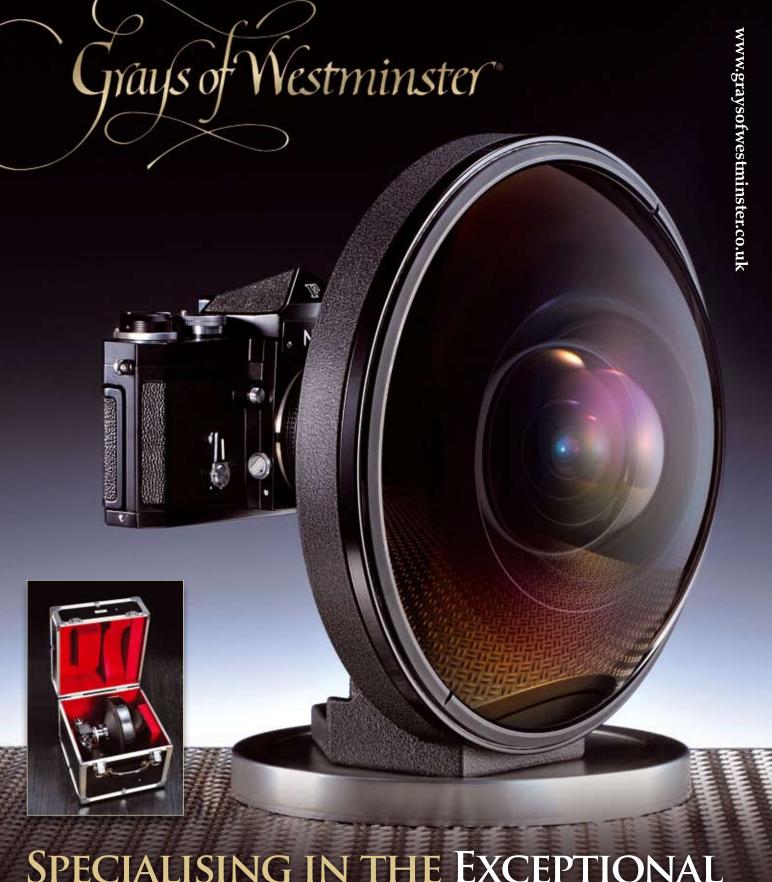
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