

WHICH DSLR?

John Henshall looks at today's leading Digital – and Film – Single Lens Reflex cameras

Canon EOS-1Ds Mark II

Nikon D2x

Fujifilm FinePix S3 Pro

Canon EOS-350D

Kodak DCS ProSLR/c

Nikon D50

Canon EOS-20D

Nikon F6

Nikon D70s

Until 1999, choosing a DSLR was easy because there was just one manufacturer: Kodak. There were no DSLRs from Canon or Nikon but Kodak made models for Canon and Nikon lenses.

The situation is much different now. Kodak has ceased manufacture of DSLRs, whilst Canon and Nikon themselves are now the major players.

There are other manufacturers, of course, but their systems are nowhere near so widely used as Canon and Nikon. Just one other manufacturer features prominently: Fujifilm, whose S-series DSLRs accept Nikon lenses.

I am often asked to recommend the best DSLR but this is difficult to do. Cameras have different strengths – and weaknesses – and deciding how these

suit or conflict with your needs is particularly difficult.

For example, do you want very high resolution, or accurate – or pleasing – colour, or high sensitivity with low noise? Or is price or weight the most important factor?

In an attempt to evaluate some of these factors, I got together the major Canon- and Nikon-mount DSLRs for a series of side-by-side real-world shots, intended to simulate everyday shooting conditions rather than test-chart tests.

Anyway, I don't know anyone who photographs test charts for a living.

I included Kodak's full-frame sensor ProSLR/c, because these cameras – with Canon (/c) or Nikon (/n) mounts – are still out there at tempting prices.

I added to the list the latest –

perhaps even the last – film SLR, the **Nikon F6**. This was loaded with the latest 35mm film: the new **Fujichrome Velvia Professional 100**. The film was processed by one of the leading London professional laboratories and scanned at 4000 pixels per inch using the latest **Nikon Super CoolScan 9000** scanner.

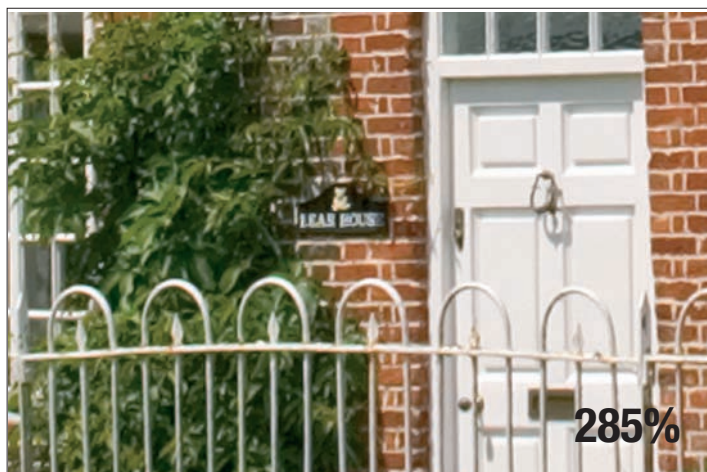
My first shot was of Bear House. Over the years, I have been waiting for a camera which could resolve the house name in this shot. At last this is now possible with the Canon 1DsII and, to a lesser extent, with other cameras.

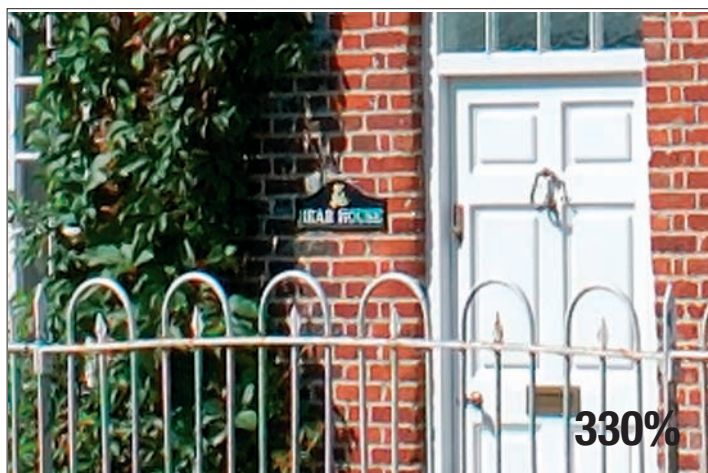
Next came a typical studio portrait setup – electronic flash with softboxes. In each case the camera was set to its Flash White Balance.

So which camera is the winner? Which camera should you buy?

— continued on page 6

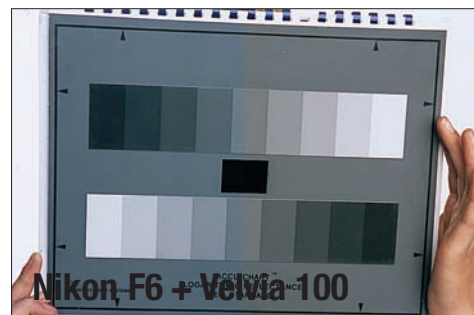
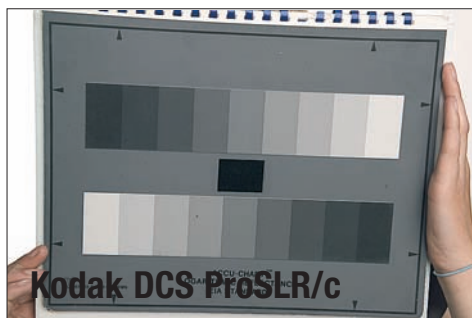
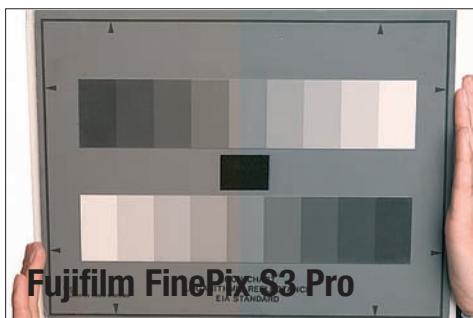
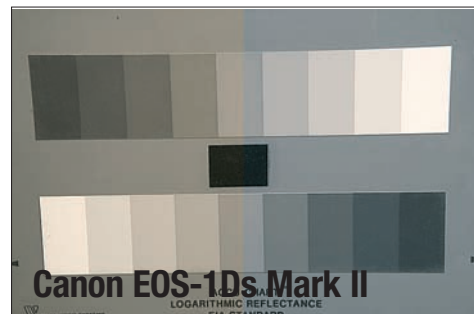
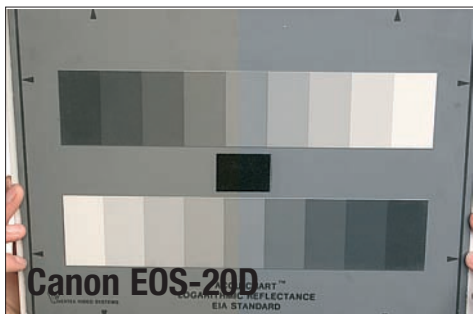
John Henshall's Chip Shop







PREVIOUS PAGES: The shot of Bear House gives a good indication of a camera's ability to resolve fine detail and the sunlit white gates and shadow areas provide real-world tonal extremities. The percentages indicate the enlargement above 300 ppi required to produce the sections shown. ABOVE AND LEFT: Using Fuji Velvia 100 film in the Nikon F6 was a strange but enjoyable experience I haven't had for a few years now. Having to wait a few days for the results was definitely a drag – particularly the palaver of getting the film processed and scanning it. Although the colour and tonality of the film is beautiful, there is noticeable halation, particularly around the rounded tops of the railings. This could not be the lens – I used the same one lens for all the Nikon-mount cameras and another single lens for all the Canon mount cameras. I even re-scanned the shots on another scanner to be sure but the halation was still there. BELOW: Shooting in the studio using the camera's Flash White Balance was not a good idea. The shots of the greyscale are divided down the middle – the left halves show the result of the camera's Flash setting, the right halves are the corrections achieved by clicking Adobe Photoshop's 'Set Gray Point' Eyedropper (in Curves) on the chart's background. Interestingly, the Kodak gave the best result. It's much better to set a manual White Balance for your flash. RIGHT: The portraits – all exposed using the cameras' Flash settings.



Copyright © 2005 by John Henshall john@epi-centre.com



Unfortunately that decision is by no means clear cut, though I do have my preferences, based on a combination of colour quality, resolution and price. And a lot depends on which system you already use – Canon or Nikon.

However, it's important to bear in mind that your old 'legacy' lenses from film days might not produce the great results you expect or hope. On the other hand, they might – there's no hard-and-fast rule. Chances are, however, that if you already use one particular system, that's the one you'll stick with. Or might now be the time to change systems? If so, you'll need to spend a lot of money on lenses.

If I used **Nikon** lenses I would go for the **Fujifilm FinePix S3Pro** for general use because of its excellent colour and reasonable price. For high-end use I would choose the outstanding **Nikon D2x**. Both have small sensors, though.

For the **Canon** system I would choose the **Canon EOS-1Ds Mark II** for its stunning resolution and colour and its full-frame sensor. But it's big, heavy and very expensive, so I would choose the **Canon EOS-20D** as the best trade-off of quality, functionality, weight and price. *To be concluded*

The Canon EOS-1Ds Mark II has 16.7 megapixels – the highest resolution of all the DSLRs. While you may be tempted to go for this camera simply because of its incredible resolution – much higher than any 35mm film – bear in mind that the level of detail which the camera reveals could be an embarrassment. **BELOW:** Karyna wears absolutely no makeup and has a flawless complexion. Unless all our female subjects are like her, we would need to use considerable amounts of makeup and diffusion, or spend hours retouching blemishes. **RIGHT:** The close up of Karyna's eye is a section of the same image interpolated to 190MB. This would produce a 84.5 x 56 cm print – that's 33 x 22 inches.



Copyright © 2005 by John Henshall john@epi-centre.com



WHICH DSLR?

John Henshall continues his look at leading Digital – and Film – Single Lens Reflex cameras

The choice of a Digital Single Lens Reflex is based on many varied considerations. I have chosen to concentrate on the quality of the images produced by the cameras rather than on the operation of the various knobs and buttons.

How well detailed are the images? How well do they resolve fine detail? How well do they handle a broad range of tones? Are subtle tones, for example in skies, reproduced smoothly? How good is the Auto White Balance?

The picture of Bear House, used in part one of this review, was chosen to illustrate these factors. Although each camera on test resolves different amounts of fine detail, with differing artifacts – such as colour aliasing – each camera handles the wide tonal range adequately.

How well do the cameras reproduce normal flesh tones? How useful and accurate are the camera's pre-set Flash White Balances?

All the Canon DSLRs and the Fuji S3 produced quite warm results from the camera's pre-set flash white balance, the Nikons being more neutral. The cameras would clearly benefit from the production of a custom white balance to suit your particular strobes.

All the cameras produce pleasing flesh tones, although those from the recently discontinued Kodak DCS ProSLR/c are slightly less saturated.

How accurately do the cameras reproduce colours?

This is something which some users find much more important than others.

Despite film manufacturers' valiant attempts to make film which records colours accurately, film has never done so. That's why we preferred the look of one film over another. In fact we often preferred the distortion of colour that a particular film brought to the party.

Usually we preferred the film which gave flattering flesh tones. Not many



people want to see the accurate reproduction of the light magenta flesh tones of a cold British winter.

To produce comparative shots which help show how the different DSLRs reproduce a variety of colours I have broken one of my own rules and opted to photograph a test chart.

The chart in question is the GretagMacbeth™ ColorChecker Color Rendition Chart.

This chart is made up of twenty four coloured squares in a wide range of colours, many of them naturally occurring – such as human skin, foliage and blue sky.

To aid comparison, I have produced a pure digital version of the Macbeth chart in the same colour space as that used for the camera shots. It is reproduced below, along with the names and RGB values of the squares.

Dark skin R94 G28 B13	Light skin R241 G149 B108	Blue sky R97 G119 B171	Foliage R90 G103 B39	Blue flower R164 G131 B196	Bluish green R140 G253 B153
Orange R255 G116 B21	Purplish blue R7 G47 B122	Moderate red R222 G29 B42	Purple R69 G0 B68	Yellow green R187 G255 B19	Orange yellow R255 G142 B0
Blue R0 G0 B142	Green R64 G173 B38	Red R203 G0 B0	Yellow R255 G217 B0	Magenta R207 G3 B124	Cyan R0 G148 B189
White R255 G255 B255	Neutral 8 R249 G249 B249	Neutral 6.5 R180 G180 B180	Neutral 5 R117 G117 B117	Neutral 3.5 R53 G53 B53	Black R0 G0 B0

It is hoped that this may aid comparison by offsetting some of the inevitable colour changes introduced by the reprographic printing process.

First I photographed the Macbeth under 'normal' shooting conditions, using studio flash with the cameras set at their lowest ISO settings at an aperture of f/8.

The resulting images (on the next page) have not been subjected to any adjustment in post production. They show a remarkable similarity to each other and to the Macbeth chart.

Next I set up some 'When the chips are really down' shooting conditions. How does the camera perform when there's almost no light? Each DSLR was set to its highest ISO setting and exposed using low-level bounced tungsten light using the camera's 'P' (Programme) mode. A very tough test.

Please refer to page 18 for an explanation of the method and results, which are reproduced on page 17.

After you've spent time studying the results I obtained, you should be in a better position to decide which DSLR is for you. **Ultimately, the choice is yours.**

Macbeth Chart shot using studio flash at ISO100 with Auto White Balance



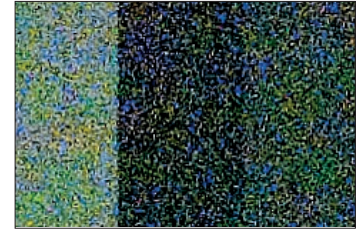
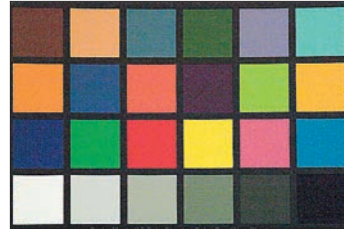
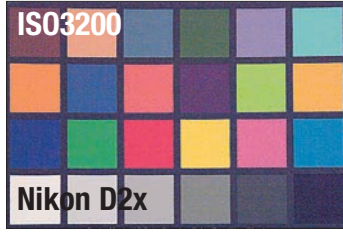
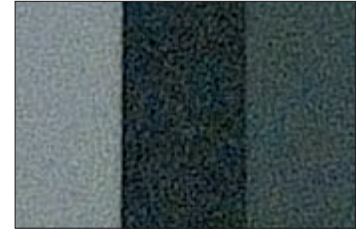
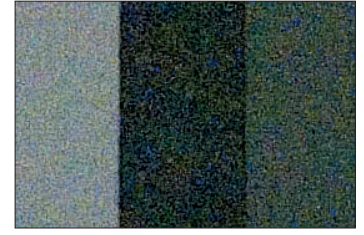
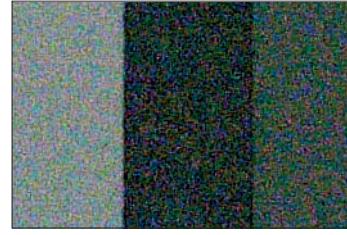
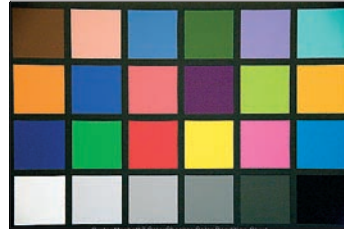
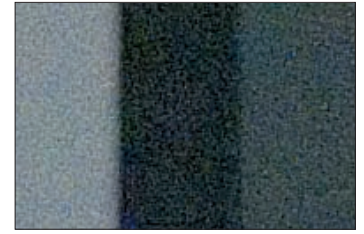
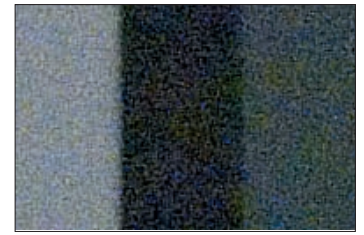
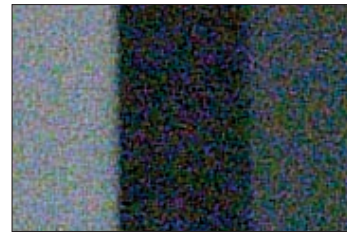
Copyright © 2005 by John Henshall john@epi-centre.com

Max ISO as shot

Greys corrected

Noise as shot

Noise as reduced



John Henshall's Chip Shop

PREVIOUS PAGE (16): 'Normal' shooting conditions. A 24-patch GretagMacbeth™ Colorchecker Color Rendition Chart was photographed using studio flash with each camera set at its lowest ISO setting. In most cases this was ISO100, except in the case of the Kodak DCS ProSLR/c, the lowest setting of which is ISO160. The images, none of which have not been adjusted in post production, show a remarkable consistency with each other and to the test chart itself.

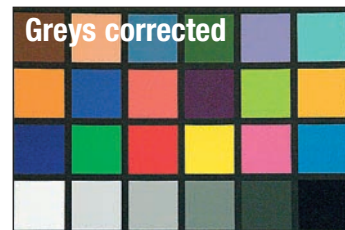
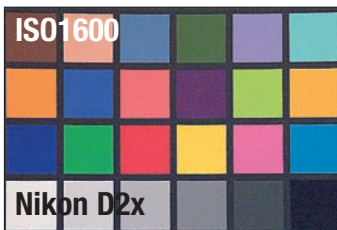
PREVIOUS PAGE (17): 'When the chips are really down' shooting conditions. Each DSLR was set to its highest ISO setting and exposed using low-level bounced tungsten light (colour temperature 2650K) using the camera's 'P' (Programme) mode. The first column shows the results as shot. Most cameras have difficulty in performing a satisfactory Auto White Balance at such a low colour temperature. The second column shows the same shots after adjustment of black, white and grey in Adobe Photoshop CS2 using the Eyedropper Tool in Curves. The third column is a big enlargement of a section of the corrected image, to show the image noise. The fourth column is the same section of the images but this time acquired using a Color Noise Reduction setting of 25 in Photoshop CS2 Camera Raw acquire. In the case of the Kodak DCS ProSLR/c and Nikon D2x, a CNR setting of 50 was used, in an attempt to further reduce the higher levels of colour noise.



ABOVE: The new Fujichrome Velvia 100 film as a comparison. First (TOP) using the same studio flash as the DSLR shots on page 16. Next (MIDDLE) using the same tungsten lighting as the shots on page 17 but with the film rated at ISO100.

Finally, film rated at ISO400 but processed normally and 'pushed' in Photoshop. LEFT: This photograph of the late great George Harrison was made in 1976 using the (then) new ISO800 colour negative film. The grain was much more obtrusive than the noise from any of today's DSLRs. The size of golf balls springs to mind.

BELOW: The high level of noise from the Nikon D2x at the 'Hi-2' (ISO3200) setting alarmed me, so I also tested the camera at the lower 'Hi-1' (ISO1600) setting.



WHICH DSLR?

Just when it seemed safe to conclude this comparison, two new cameras are announced.

This article was never intended to run over three – or more – issues, thought I can't say I'm surprised it's turned out that way, because the pace of change in DSLRs is now so astonishingly fast.

Two new cameras have been announced in the past few weeks and supplies of the Kodak DCS ProSLR/c (and /n) have finally petered out.

The first of the two new cameras to be announced was the Canon EOS 5D which is very much like a Canon EOS 20D on steroids – compare the pictures on this page.

I trailed this camera in the August 2005 issue and those predictions turned out to be spot-on. Better still, I have now had a 5D for a couple of weeks and have been able to use it on a number of different assignments.

One location in which I used the 5D was *The Horse & Jockey* pub in Stanford in the Vale.

Not only is my local hostelry full of interesting faces who don't mind being made famous in *The Photographer* but it also has the most taxing subdued and mixed colour lighting I have found. They call it atmospheric. I call it dark. The fact that fine English ale is served there is purely coincidental, though I confess that this does occasionally act as welcome stress relief when coping with the near impossible lighting – which might well have been purpose-designed to test DSLRs to the limit.

The pictures of Tom and Tigger on the facing page were both taken using the Canon EOS 5D's maximum ISO of 3200 and my Sigma 24–70mm f/2.8 zoom lens.

Look how well the 5D has coped

with the steep and hard – but dim – light on Tom's face and the bright colours of the fruit machine beyond. The colour temperature – only 2600K – used for this shot was assigned during acquisition from the raw file in Adobe Photoshop CS2.

The shot of quiz mistress Tigger is even more amazing. Quite strong amber light coming from the left is competing with soft frontal light, while the background (bar area) is relatively brightly lit. Assigning a colour temperature of 2500K, the 5D has coped beautifully with all this.

But wait. Take a look at that 300% enlargement of Tigger's right eye. Not only is the catchlight sharp on the Sigma 24–70mm, less than half a stop from wide open, but where is the noise? Remember that this is at ISO3200.

The results from the 5D at high ISO are nothing short of miraculous. This is the tightest, most controlled and lowest amount of noise I have ever seen in any digital camera at anything like ISO3200.

The 5D has the same brilliantly designed user interface as the 20D, with single-button access to all the main functions.

It is intuitive and a real joy to use.

Positioned mid way between the 20D and 1Ds MkII in price and specification, the 5D has a full-frame sensor and a larger LCD screen than its relatives.

My one criticism is that the embedded thumbnail image is still not of sufficiently high resolution to allow real appraisal of images, which are sharper when processed than when viewed on the back of the camera.

In short though, the Canon EOS 5D is one of the very best DSLRs yet made.



Canon EOS 5D



Canon EOS 20D



Canon EOS 5D



Canon EOS 5D



Canon EOS 20D



Canon EOS 5D



Canon EOS 20D



Canon EOS 5D

Studio flash ISO100 Auto White Balance



238%

Max ISO as shot

Greys corrected



Noise as shot



Noise as reduced



Section from below at 300%



ISO3200 1/60 f/3.5 48mm 2600K

ABOVE: The same test shots as were used for the other cameras (see September and October issues) in this review. The resolution is just what we would expect from a 13 megapixel sensor producing 36.4MB 24-bit images of 4368 x 2912 pixels. LEFT: At the top limit of ISO sensitivity (3200) the 5D is simply quite phenomenal. BELOW: In more normal usage, Auto White Balance and the lower ISO sensitivities (in this case ISO400) produce beautifully exposed shots with fine tone and colour.



ISO3200 1/60 f/3.2 24-70mm @ 52mm mixed light WB 2500K



ISO400 1/320 f/6.3 300mm Auto White Balance

Copyright © 2005 by John Henshall john@epi-centre.com

Coming soon – the Nikon D200

As you can see from Steve Bavister's photograph of me on the left, I've had it in my hands and I've even made a few exposures using it. Yet, if I look a little wistful, it's because this is a pre-production example of the new Nikon D200, which wasn't ready for me to put to the test when it was announced to the world on 1 November 2005. Oh, the frustration.

This new DSLR from Nikon looks set to put the cat among the pigeons, because it will have a price just a penny short of £1,300 including VAT – little over half that of the new EOS 5D.

The D200's sensor moves back from CMOS (as in the D2x) to CCD. I can't help wondering if this is because of noise, which can be more acute in high resolution DX-size (half frame) CMOS sensors. ISOs go from 100 to 1600 on the main dial, with expansion to ISO3200 – all in one-third *f*-stop increments.

The new CCD has 10.2 megapixels, producing 28.7MB 24-bit images of 3872 x 2592 pixels. Do you really need any more?

The Nikon D200 is just slightly larger than the D70s and quite a lot smaller than the D2x. But, make no mistake, this is a truly professional DSLR with magnesium-alloy body and external seals against dust and water. **More to follow soon ...**



Copyright © Steve Bavister



LEFT: Two Delta launches at speed, captured from the deck of the Isle of Wight ferry in the Solent on 27 June this year. I spotted and grabbed this shot as the launches sped past, without fully realising what or whom they were carrying. Only when I converted the raw file on the computer did I see the tough and mean looking security officers with their guns. **BELOW:** A small section of the same image enlarged to show the kind of detail which it is possible to pull up from a Canon EOS 1Ds MkII image – currently the highest resolution DSLR on the market. Hand-held exposure from the deck of a moving ferry boat, 1/200 sec at *f*/5.6, 28–300mm zoom at 260mm with Image Stabilizer, ISO 250.

RIGHT: Section of a Canon 1DsMkII time exposure captured at the Trafalgar 200 celebrations in the Solent off Southsea on the evening of 28 June 2005. This is the kind of long exposure which taxes any digital camera because long exposures can build up the sensor's noise. Tripod mounted, approximately 20 seconds at *f*/22, 28–300mm zoom at 65mm, ISO100.



Copyright © 2005 by John Henshall john@epi-centre.com

So, after three months, 'Which DSLR?' The truth is, I now realise that I set myself a question which is quite impossible to answer. I still don't know.

If someone was to tell me that, for some reason, only one of the cameras I have looked at is now available, I would be happy to use it – however many megapixels, whatever brand.

The fact is that there is so little difference between today's DSLRs that the choice comes down to such factors as how it feels in your hands, how well you can get on with its interface and how much it costs. It's very personal.

Of course I have my own favourites.

The **Fuji FinePix S3 Pro** for its nice handling and lovely JPEGs, especially of flesh tones. The **Canon 1DsMkII** for its unequalled resolution and tank-like professional build quality. The **Nikon D2x** for its beautiful handling, that

gorgeous big LCD monitor and the fine crisp images it produces. The **Canon EOS 20D** – perhaps now the **Canon EOS 5D** – for its neat size and brilliantly straightforward interface.

I would be very happy with any one of these. That is the state we are at with today's DSLRs. Over the years I have seen them all – right from the first, fifteen years ago – and every current DSLR is a real credit to its designer and manufacturer.

Of course, some are more suited to professional use than others. But even the more lowly models – often referred to as 'prosumer' models – are digital marvels which would be ideal as bodies to back-up a first choice.

If pushed to make a choice of just one DSLR, for me it would probably be the **Canon 1DsMkII**. I like quality, and this has it all. Allow me to explain.

The shot at the foot of the previous

page was captured from the Isle of Wight ferry in the Solent on 27 June this year. Only when I converted the raw file on the computer did I see the tough and mean looking security officers with their guns. I've enlarged just a section of the image to show the kind of detail it's possible to pull up from a 1DsMkII image.

The shot below was captured the next evening, at the Trafalgar 200 celebrations in the Solent off Southsea. It is a lengthy time exposure – the kind which taxes any digital camera because long exposures build up the sensor's noise. Again, the 1DsMkII performs remarkably. For me this camera is close to perfect – and for close to £6,000 (you can now get it for much less) you may feel that it ought to be.

Finally, it's a fact that although we only really get what we pay for, none of today's DSLRs are really expensive.



Copyright © 2005 by John Henshall john@epi-centre.com