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DIGIT

Spring 2007 No 34



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From the Chairman

It's almost a year since I donned the mantle of Chairman of the Digital Imaging Group and what a busy 12 months it's been, full of variety and never a dull moment!

Once again we approach the AGM. This time we are to lose four committee members, three of whom have been working on the committee for more years than they care to remember. Our sincere thanks go to Hilary Roberts, Peter Roberts and Glenys Taylor whose input, enthusiasm and sheer dedication over the years has been invaluable. We also say goodbye to Carole Hewer who is unable to continue after a relatively short time with us. Carole's contribution has been very much appreciated.

As a group we continue to expand and move forward. We are happy to report that a new region has been formed, that of Yorkshire, and we're indebted to Terry White for initiating this venture and to Robert Croft who has accepted the role Yorkshire Digital Imaging Group Regional Organiser (DIGRO) and his team for this new group. We are also pleased to report that after an interregnum, the North West/Cumbria Group is now back in operation with Harry Bosworth once again taking up the reins as DIGRO for the region. In addition the newly formed South Wales Group is making strong progress in the energetic hands of Maureen Albright. Our regional groups offer great meetings, a chance to meet fellow enthusiasts, share work, ask questions and gain knowledge. Contact details for DI Regional Groups can be found on the back cover of this journal.

It's been my recent pleasure to view again the images accepted for our 2006 Exhibition and record my thoughts about each picture. I firmly believe that photography, as an art form, should communicate and I have done my best to discover the nuances of communication in each image and express a personal viewpoint. I hope you find the resulting DVD informative and entertaining. Our thanks go to Graham Whistler for undertaking the task of copying for distribution. The production should provide interesting viewing on an individual basis and perhaps provide a useful session at a photographic club, or as part of a regional meeting event.

It's quite remarkable how readily digital imaging, as a mainstream method of photography, has been assimilated by the majority of photographers, yet curiously, the 'dangerous frontier' that 'digital' represented appears to have become more distant. Digital development and expansion has been so rapid that we have forgotten the very recent past when DI was considered to be a malicious and frightening upstart - indeed a threat to 'real photography'. Furthermore it was unfair, it was outrageous and colleagues adopting this new medium were regarded as deserters, cheats and betrayers of our heritage. Schisms developed both in camera clubs and learned societies and debate and argument could be heard about this new medium. Despite the polarity of viewpoint and hotly contested opinions one thing was for certain: it was a stimulating and artistically dangerous time to be making images. Experimentation was prevalent and all sorts of outrageous creations were presented: strange new filters and effects were applied and photographic art was an adventure playground. The playground was, as all playgrounds, a necessary early-learning experience; it was a rough and tumble of technique and a free-for-all helter-skelter ride of ideas. Yes there were swings and roundabouts too as visions oscillated from the traditional to the avant-garde. Much of what was produced was brash and crudely experimental - we all made pictures that were naive and rooted more in technique than intellect. However this was a necessary evolutionary stage of artistic natural selection where many strange forms fell by the wayside.

However, where are we now? Do we retain the same thrilling cutting edge of fruitful experimentation? Since those early hazardous days when to adopt the digital route was regarded as heresy, most photographers have been converted to the medium. But what's happened to the danger and the risk? Have the traditionalists taken over the agenda. Many now seek to use DI as a method of simply emulating what was once achieved in the darkroom. This is a worthy pursuit, for darkrooms were environmentally unfriendly places after all. We can now produce black & white prints that resemble silver halide work, we can make look-alike lith, selenium tone, cyanotypes, Van Dyke brown, gum bichromate and salt prints and we can use digital cameras to capture infra-red imagery. This is a great facility, to be applauded.

Digital imaging can do all of these things - but it can also offer so much more. It is, after all, its own medium, just as films, 'alternative processes' and wet processes are each their own medium.

Why not develop further what this new fully digital medium can contribute to our artistic expression? Why not once again live dangerously and be prepared to challenge the establishment? Art is about 'living on the edge' and 'taking risks' - and not trying to please club judges.

With the knowledge that art thrives on controversy, tension and informed criticism, we must be prepared to take risks and, yes, to fail from time to time in our endeavour to discover new pathways for expression.

I would like to encourage everyone to use and exploit this wonderful new medium so that it may take its place alongside the so-called 'traditional methods' and not be simply regarded as a poor relation, predominately mimicking darkroom-based photography.

DI is a wonderful new voice and one that can contribute a fresh set of scales, chords and tones to the familiar harmonies to which we



This month's cover picture:

Tulip by Gitta Lim LRPS Would you like to see your best digital image take pride of place on the front cover of DIGIT? Then here's the challenge. Send me an email to editor@digit.org.uk attaching your image which should be in the same proportions as the cover - about 23 cm on the vertical side and 21 cm wide. I do have some room to

manoeuvre on sizes but I want to keep the banner heading standard so you may consider a border for your image. Send a jpeg of about 2MB at first. I'll come back to you for a higher resolution if it's needed.

have become accustomed. We need iconoclasts and the equivalents of Stravinsky, Charlie Parker, Thelonious Monk, Jimi Hendrix, The Sex Pistols, Kimmo Pohjonen and The Necks out there, keeping us awake and alert and above all making the medium relevant and yes, hopefully, controversial!

And, who knows, I may have stirred things sufficiently for some controversy to begin here? *Oliver Haynes FRPS*

Latest Distinctions for DI Group Members

We are delighted to congratulate the following DI?Group members who have recently gained distinctions:

Associate: Ray Grace; Alan Whetton

Licentiate: Rick Alexander; Malcolm Cousins;

Martin Eves; Philip Greenwood; David Hawkes;

Philip Stapleton; John Stringer; and Robert Wisdom

AGM & Selection of prints for Exhibition Sunday 22 April 2007

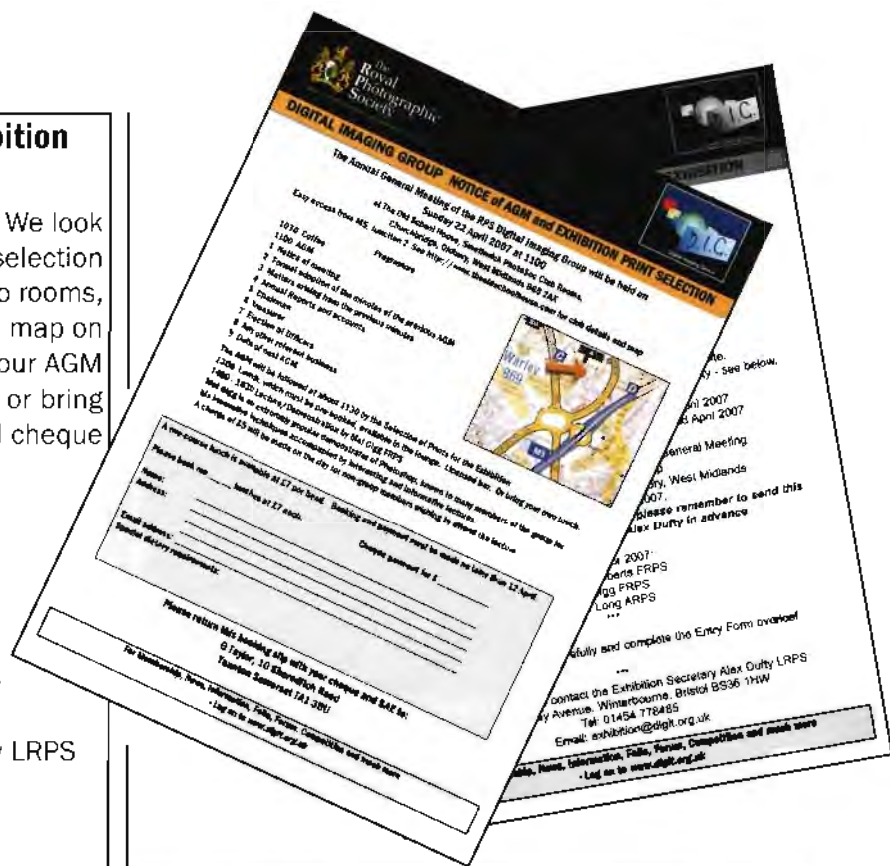
Recognise these forms from the last DIGIT? We look forward to seeing you at the AGM and print selection at The Old School House, Smethwick PS Club rooms, Oldbury, West Midlands B69 2AX. There is a map on the Smethwick PS website if you can't find your AGM Notice. Send your prints to Alex Dufty LRPS or bring them on the day but get the entry form and cheque in now please!

This is the programme:

- 1030 Coffee
- 1100 AGM
- Minutes of the 2006 AGM
- Annual Reports and Accounts
- Election of proposed new committee

Chairman: Clive Haynes FRPS
 Vice Chairman and DIGIT Editor: Jim Buckley LRPS
 Secretary: Bob Pearson ARPS
 Treasurer: David Naylor LRPS
 Webmaster: Bill Henley LRPS
 Publicity and Website Updates: John Long ARPS
 Exhibitions: Alex Dufty LRPS
 DIGRO Co-ordinator: Chris Haydon
 Maureen Albright ARPS
 Tony Healy ARPS
 Dr Barry Senior FRPS
 Graham Whistler FRPS

1130 approx Selection of Prints for the Exhibition
 1300 Lunch - Two courses for £7 - Must be pre-booked with Glenys Taylor ARPS on 01823 323986
 1400 Mel Gigg FRPS. This popular demonstrator of Photoshop is known for his innovative techniques accompanied by interesting and informative lectures. £5 charge for lecture for non-group members
 1630 Close



DI Group Residential Workshop in Digital Portraiture and Photoshop April 9 - 11 2007 at West Dean College, Chichester, Sussex. Workshop fully booked but watch website for any vacancies. Limited to just eight photographers. Contact Graham Whistler FRPS on 01329 847944 or email: graham@gwpmultimedia.com

DI Group Workshop/Lecture 9 December 2007 at The Old School House, Oldbury. Main lecturer Terry Steeley, Graham Whistler FRPS Practical Portrait Session and Wacom demonstration. Should be a great day. Note the date and look for details on the website and in the summer DIGIT.

NEXT?REGIONAL DI GROUP MEETINGS - SEE BACK COVER FOR CONTACTS

WESTERN: 25 March at 34 Thomas Street Taunton Somerset TA2 6HB.

CENTRAL?SOUTHERN: 25 March at Coopers Hill Community Centre, Bracknell, Berkshire RG12 7QS.

SOUTH WALES: 21 April at Talbot Green Community Centre, Llantrisant.

YORKSHIRE: 13 May Selby Community Centre, Selby. YO8 4BL **WESSEX:** 16 June at Aldbourne, Wiltshire.

In this issue of your Digital Imaging Group magazine

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Annoying Noise

It used to be about controlling grain but now it's noise. John Wigmore FRPS has prepared this discussion paper on detail and noise in digital images using raw file converters to help us face this new challenge. John's points are illustrated with his carefully chosen images.

The starting point is the RAW file as produced and saved by the camera. It will contain both unwanted noise and subject-useful detail. Raw converters often have the following controls and all affect visible noise and detail:

- Noise reduction slider;
- Smoothing slider;
- Sharpening slider;
- Contrast slider;
- Curves In converter or Photoshop/Elements.

Getting the right combination of these factors for the ISO used is critical to extract the maximum useful and visible detail yet minimising visible noise in the final print.

Despeckle in Photoshop is useful if extra sharpening is used carefully afterwards.

Noise cannot appear in pure whites or blacks and must therefore only be apparent in mid-tones. Therefore the use of S-shaped curves to increase mid-tone contrast must be carefully applied else noise visibility will be increased. It is a trade between noise and improved tonal rendering and detail.

Try the use of threshold (value 1-4) in Unsharp Mask when applying the final sharpening to avoid



Wee Kirk was taken at around 1600 in September (EOS 20D 28 - 135mm zoom RAW converted in Adobe Lightroom Beta copy). The sky had extra clouds added from another exposure taken minutes later and only the land was sharpened to avoid noise printing through in the sky. Using the dodge tool at 8% set for highlights and also a duplicate layer set to Screen with a layer mask, selected areas of the image were lightened. The church had some of its cement rendering mended by cloning!

sharpening smooth areas (for example skies) where detail is not required.

Noise may be regarded as "unwanted chip generated detail". Therefore minimising noise MUST reduce true detail so a compromise has to be found which gives the eye sufficient useful detail to give the viewer an impression of sharpness without excessive noise becoming obvious and annoying. A standard compromise is often difficult to obtain as it varies from camera to camera, for different ISO ratings and with different subject matter.

The algorithms used by camera manufacturers and/or raw file converters to generate the on-screen visible image, which are beyond the photographer's control, may well be crucial in minimising noise and maximising true detail, that is noise to signal ratio. Proprietary noise reduction software (for example, Noiseware Pro) can be very effective in reducing noise yet preserving useful detail without the image looking plastic - see my method of use below.

It is now down to the camera and chip manufacturers to develop noise free sensors with excellent true detail. Perhaps the next generation of Foveon type sensors will be the answer if the raw file (unconverted)

On Ullswater was shot using a Canon EOS 20D with 100 - 400L zoom, in RAW and converted in Adobe Lightroom Beta copy to Adobe 1998 colour space at 16 bit. A duplicate layer was made with an 81B filter applied and the area top left (trees in shadow) was layer masked through using a soft brush to warm this area up with the background layer, and flattened.

Lighting effects (directional, green channel) was then applied and faded 50% to lift the image and add a sparke. A shallow S-curve was applied to lift and separate the midtones. The image was printed with an Epson 1290S on MX2's "Canvas" paper which has a very clean white base and canvas-like texture. The paper/printer combination was profiled using the Gretag Macbeth 2-print method using the equipment my local photographic society had purchased with a Lottery Grant.



sensors will be the answer if the raw file (unconverted) is about 24mb to 30mb rather than the current 10mb or thereabouts.

Here's my method of using Noiseware Pro:

- Make a duplicate layer (Ctrl+J). Apply Noiseware Pro to this layer only at the default settings. *Note: Noiseware Pro analyses and builds its own profile of the noise present.*

- Use Unsharp mask as usual applied separately to BOTH layers. I use around 200% at a radius of 0.7 for 252 ppi prints with a threshold of 2 from an EOS 20D camera. *A radius of 0.6 - 0.7 allows a high percentage of sharpening to be used without a halo effect. This radius is determined by dividing the ppi by 360. Other photographers may well use a lower factor. I find a factor of 360 avoids the dreaded halo effect when a high degree of sharpening is deemed necessary by the photographer. My normal USM range being 100-200% depending on my requirements. Other photographers will have different ideas on this controversial subject I know!*

- Fade the opacity of the top layer until the noise from the background layer is just visible on screen. This level of noise should not print and maximum detail will be obtained without the plastic (over smoothed) look that is sometimes encountered with too much noise reduction. A layer masking technique can be used to denoise only (say) skies.

- Finally, flatten the layers.

An alternative method without using Noiseware Pro is to again make a duplicate layer, sharpen the top layer only and combine the layers using a layer mask to exclude areas where noise may be a problem, for example skies.

Recently I was able to compare different Raw converters including the latest CS3 (beta copy) courtesy of a friend's computer. Comparisons between some of the available different converters reveal that the best true detail is obtained by Capture One which also exhibits the least noise and perhaps the best colour (in my opinion) although the converter in CS3, which is very similar to that in Lightroom, has

lots of useful adjustment facilities and flexibility.

This paper only skims the surface of a very complex subject and the thoughts and experiences of others will be of interest to all of us. *DIGIT looks forward to further contributions on this subject.*



Mountain Mood was taken at 200 ISO on an EOS 20D with 100 - 400L zoom. The RAW file was converted using Raw Shooter Essentials. The resulting histogram was all bunched in the middle with nothing at the left or right ends as the scene was very hazy and of relatively low contrast when taken - not unusual with distant landscapes.

Using levels to expand the contrast range (both left and right sliders brought towards the centre to touch the histogram) resulted in excessive noise in the midtones but restored the contrast to normal.

The noise was then minimised using the Noiseware Pro method as described in the article, fading to about 80%.

The light was enhanced using a combination of multiplied and screened duplicate layers and layer masks and a soft brush. Additional "light" was introduced using the dodge tool, set for highlights at about 8%, working carefully so as not to over do it!

John has prepared two pictures of part of a steam engine taken at Toddington, with detail of a bridge, with lots of noise, taken at 1600 ISO in dull, overcast light. The engine, which is really dark grey, has been made black to avoid any lack of detail and to ensure that the noise shows up well. And to illustrate the noise even more clearly John has increased the saturation by 40%. The RAW file was converted in Adobe Lightroom Beta without being de-noised at the conversion stage. Jpeg images cannot be de-noised until later. The dark greys show the noise as well as smooth tones like smoke.

Noiseware Pro was applied as described. No "fading back" to a sharpened, but not de-noised, file was possible as this only reintroduced printable noise from the sharpened original which itself was extremely noisy. This could possibly have been done using an

original with less noise shot at perhaps 200 ISO had there been enough light.

Original with USM + 40% Saturation



De-noised 100% with USM +40% Saturation



Getting to Grips with High Dynamic Range Photography

I invited John Miles LRPS to guide us through HDR after seeing one of his images on the DI Group Folio. And he's given us this splendidly comprehensive review. You can see more of John's work at: www.johnmilesphotography.com

If the photo forums are anything to go by High Dynamic Range Imaging (HDR) in photography is booming with many discussions on its technology, techniques and application. Search online galleries such as DeviantArt and flickr for HDR and you'll find a vast number of astonishing images captured and processed using this relatively new photographic technique.

I came across HDR in April 2006 when a computer graphics engineer who was using the technique for rendering computer games enthused about the technology in his area: 'bright things can be really bright, dark things can be really dark and details can be seen in both - it can be applied to still photography too'. A geek at heart I rushed off to Google to investigate and a year later I'm thoroughly hooked and use HDR for many of the photographs I take.

In this article I'll be describing my journey of HDR discovery - my experiences, my learning and my tips and tricks illustrated with my results. I won't be detailing the technology of HDR or the workings of the various HDR software choices. There are now many introductions and guides to HDR available, including a recent article in our very own RPS Journal. I provide a list of my favourite reference material at the end of this article for your perusal or diligent study.

Here is my short guide to HDR Photography:

- Take multiple exposures of your scene a stop or so apart. Anything from 3-12 shots.
- Organise and manage these multiple shots in Photoshop Elements 5.
- Use Photomatix Pro to merge these shots into a single file or HDR Negative.
- Use the Tone Mapping features of Photomatix to develop your image to your taste.
- Tweak and adjust in Photoshop to finish off.

Easy. Well, not quite. But after you've absorbed my tips and tricks and studied some of the reference material I assure you that you'll soon be out there clicking away sporting a WDRG (Wide Dynamic Range Grin).

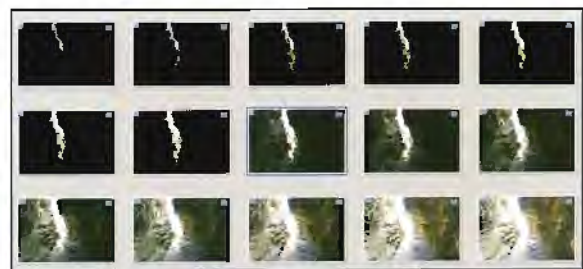
First Attempts Googling HDR led me to a couple of tutorials. The first suggested taking around ten shots a stop apart as a starting collection for an HDR merge. Well, it was 7pm in the evening and I couldn't see me getting out in the field for a day or so. But wait, I had some bracketed shots of a sunset over Dartmoor that

could work. And it did. Three camera autobracketed shots, just one stop apart merged and tone-mapped using the free trial version of Photomatix got me going in no time. Traditional merging of these three shots using layers and masks would have taken me a lot of fiddling. HDR was a goer.



I was having so much fun that I took some time out the next day to go out and

find a scene with a high dynamic range that I could go to town on. Behind our house on the edge of Dartmoor there is a cave or cleft rock. Dark, deep and dingy but with interesting rock colours and brightly lit sections as well. I went overboard with 15 shots from 1/500 to 1 second by rotating my shutter speed wheel one click at a time. Back home to Photomatix and Wow! did the tone mapping pull out the detail and colour in the copper/iron bearing granite!



the



Finally that day I read that the Photomatix PS plug-in could do some pretty interesting Tone Mapping from a single RAW image, imported into Photoshop at 16 bit depth. A test on an early morning Dartmoor landscape did wonders to the sky and heather.



I like a little bit of drama in my shots and HDRI was looking like a very valuable way of helping create this.

But I'd already found lots of different options for capture and processing. What to use when and where?

Over the last year I have developed some techniques and workflow standards that work for me and I'll be sharing these with you. Of course, just when I think I have it all sorted, out comes new software functionality that means yet more trialing and experimenting. I doubt it will ever end!

Working out a Workflow - Out in the Field

How Many Shots? I started out taking around 9 or 12 shots changing the shutter speed a stop between each shot. I now use my camera's autobracketing which allows me to capture 3 shots 2 stops apart on my Canon 5D. A six-stop tonal range capture has worked for me almost all the time. I understand that some camera manufacturers offer 5 or more autobracketing shots. So set your auto-bracketing to the most shots you are allowed with the largest increment between them.

Exposure settings? Fix your ISO, set your camera to aperture priority, select an aperture and set manual focus. You don't want to capture different depths of fields or have the auto-focus decide to hunt to a different focus point per shot. If using autobracketing I also set my drive mode to burst. I can then hold the shutter down and the camera will take the three shots in a row and then stop.

Tripod or Handheld? You'd have thought this was a no brainer and any camera movement will mean the multiple shots don't line up. Well the software helps out here in that when combining the images to form the HDR file it will attempt, if directed, to align the set of images. It can be very successful at this if there is

only slight movement of the camera. I use Canon IS (Image Stabilised) lenses and three autobracketed shots often align very crisply. This shot from the entrance of the National Gallery was a handheld three shot autobracket.

Note that if you are handholding then you must autobracket and multi-shot/burst. There will be no chance of your images lining up if you have been taking



the camera away from the eye in between shots!

Moving Subjects and Objects? Just as a moving camera can cause alignment problems, think what a moving subject will do. You'll get a set of ghost images across your frame. Still objects and scenes work best but you can get away with some movement. Set to burst mode and autobracket if you have movement in your scene in order to capture the set of shots as quickly as possible. It's amazing how fast clouds can scud across the sky and waves move across the water! Look closely at the National View shot above and you will see a few ghosts walking around in Trafalgar Square. However, technology is also helping out. A new program called FDRTools is attacking the problem of moving objects like foliage moved by the wind, flowing water, moving cars, people, as in the latest beta version of Photomatix.

RAW or JPG? I started out capturing my HDR shots in jpg. To save space sure, but mainly to save the time of processing three RAWs and saving them as TIFFs for the HDR software to merge. However, I have now moved to RAW as Photomatix's latest release can open up RAWs directly and process/combine them into a HDR file without any intervention and taking advantage of course of the added dynamic range of

the RAW captures. Buy yourself some bigger memory cards and hard drives though. Three RAW shots take up 50Mb on my camera card and a typical set of files that I end up with on my PC can total several hundred Mb. **What Subjects work well in HDR?** Well, those with high dynamic range such as sunsets and sunrises taken straight into the sun. Dramatic differences in colours, textures and contrasts work well. Backlit subjects. Interior and architectural shots with a mix of brightness from openings and windows and darkness from shadows and unnatural light. Night time cityscapes.



Back Home at the Computer

Which HDR Software? HDR functionality is included in Photoshop CS2. I only used it a couple of times in the early days. Frankly, in my opinion the tone-mapping functionality has a hopeless user interface and getting good results is a real gamble. I downloaded a trial copy of Photomatix from HDRsoft. This is a fully functional trial that watermarks your final image. Within a few days I'd paid my 89 Euros for their Photomatix Pro Bundle. However, I rarely use the bundled Photoshop Plug-In, preferring to work in the stand-alone application. There are now a number of HDR software tools reaching the market. I take a look at these every now and then. Nothing has yet usurped Photomatix. However I'm looking forward to trialing 'FDRtools' and Photomatix's latest beta to see how effective they are at ghost removal. **Do I Need a Bigger Computer?** Of course, who doesn't! Merging, aligning and tone-mapping are very CPU

intensive so the more CPU power you have the better. When making tone-mapping adjustments, it can take time for the preview to update so have patience before making another adjustment. And as mentioned above all these multiple exposures and mappings eat up disk space. Add an external firewire or USB2.0 drive to your PC to help out. You can get a 400GB drive now from eBuyer for under £100.

Tip: I don't bother to save the merged .hdr file but go on to tone map it immediately and then save the resulting .jpg for tweaking in PS. This .hdr file can be well over 100Mb and if you need it again, it's straightforward to re-create.

How do I Organise all These Multiple Images? Get a copy of the new Adobe Photoshop Elements 5. The Organiser within this programme is stunning. Streets ahead of Bridge and CS2. It allows you to 'stack' groups of photos and maintains 'version sets' of the edited images in your workflow along with all the usual tagging capabilities. A really neat feature for HDR use is the 'Auto-Suggest Stack' feature which does a really good job of automatically identifying and grouping the multiple exposures of one scene. Elements 5 has massively increased my productivity in all my digital darkroom workflows. I can't recommend it enough.

What settings give the best results in Photomatix? The ones you like. I haven't managed to work out a formula that works for every image. It really is still a matter of trial and error for every image, looking at the results of slider adjustments and re-adjusting until I like what I see. I do tend to always use the Details Enhancer mode of tone-mapping and rarely touch the micro-contrast and micro-smoothing sliders.

The Natural/Unnatural Debate Some photographers consider HDR images to look unnatural or surreal and reject such images as not photography. Of course us DIGIT members won't get upset by this kind of purist debate will we? It is very possible to set up tone mapping to create some pretty extreme images (Google Extreme HDR to see some) that some would say are more illustrations than photographs. The problem that is that the human eye is really good with shadow detail but really bad with bright light. A digital camera on the other hand is good with bright light but bad with shadows. HDR increases the dynamic range in both directions and although the highlight detail is there, our eyes can't see it properly but it appears on the HDR photo thus giving it a slightly surreal look. Take a look at these clouds. Surreal?





RAW captures. Buy yourself some bigger memory cards and hard drives though. Three RAW shots take up 50Mb on my camera card and a typical set of files that I end up with on my PC can total several hundred Mb. **What Subjects work well in HDR?** Well, those with high dynamic range such as sunsets and sunrises

taken straight into the sun. Dramatic differences in colours, textures and contrasts work well. Backlit subjects. Interior and architectural shots with a mix of brightness from openings and windows and darkness from shadows and unnatural light. Night time cityscapes.

References and Resources

Do visit www.johnmilesphotography.com/galleries/digit for an electronic copy of this document with live links.

HDR Tutorials PopPhoto.com hosts a couple of HDR How-to guides. *How to Create High Dynamic Range Images* is a step by step guide to working with HDR in Photomatix and Photoshop CS2.

Master Moving Objects With FDRTools is a step-by-step tutorial on FDRTools. www.popphoto.com/howto
Photomatix have a decent Basic Tutorial in the resources section of their site: www.hdrsoft.com/resources
NatureScapes.net has a very complete HDR Landscape Photography Tutorial that is also offered as a (!)49 page downloadable PDF document. http://www.naturescapes.net/072006/rh0706_1.htm

Technical Articles, Reviews and Links Guy Brown FRPS published his article *High Dynamic Range Digital Photography* in the RPS Journal, November 2006, pp 428-431. If you can't put your hands on this you can download it from Guy's site. <http://www.guyjbrown.com/technical.html>

Wikipedia's page on High Dynamic Range Imaging provides some background history of HDR and its development and many external technical and other HDR related links. Bookmark it.

www.wikipedia.org/wiki/High_dynamic_range_imaging

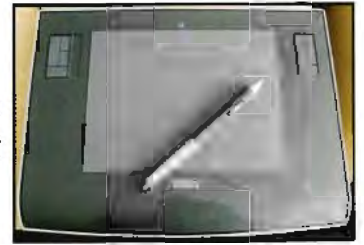
Brightside who make HDR displays have a list of HDR Resources for the geek in you at:

<http://www.brightsidetech.com/tech/resources.php>

Examples I have a gallery of my own HDR images up at: www.johnmilesphotography.com/jmgallery/HDR
Go to DeviantArt at www.didumdidum.deviantart.com/ and enter HDR in the Search Art box at the top of my page to reveal 5,585 HDR images. Similarly there are loads to wonder at if you search for HDR at flickr: www.flickr.com/search/?q=hdr

Wacom and Workflow

Clive Haynes FRPS takes us through the latest offering from the graphics tablet manufacturer. It's little wonder that Wacom is a leader in graphic tablet technology: I can't imagine working without one, says Clive. Give it a try.



Just over ten years ago, when I made my first tentative steps into the world of Digital Imaging, the first must have accessory I bought was a Wacom Graphic Tablet. That early model served me well for many years – indeed it can still be pressed into action and it functions very happily – a tribute to excellent engineering and a stable product. It's worth remembering that the pen and tablet does not replace the mouse: indeed the mouse remains connected to the computer for those occasions when it is the preferred option. In reality the mouse becomes used less as the pen is equally at home whether working in Photoshop, Painter, word processing, navigating the Internet or carrying out numerous routine tasks.

Many advances have been made to the design and features of Wacom Graphic Tablets and here I review one of the latest models – the Wacom 'Intuos 3'.

Over the years I've recommended the graphic tablet and pen combination to many students and photographers starting out along the digital route and 99% of them soon find it impossible to contemplate using a mouse for DI work after acquiring the pen. The graphic tablet has many advantages over the simple mouse. The principal features over those of the ubiquitous rodent are:

Screen Relativity

The pen in combination with the tablet points to the area of the monitor screen in direct relationship to its physical location. Indeed this is about the only feature that when swapping from a mouse first time users find to be very different. However, one very quickly becomes accustomed to this extremely logical way of working.

Flexibility of Tablet Area

The working area of the tablet can be customised for whole or partial use and the area can be rotated to a portrait format if needed. The extensive Mapping feature enables highly customised tablet working areas to be set up to cater for a variety of uses and options. Indeed the mapping feature is so flexible that the tablet can be set up for dual monitor use.

Intuitive Response

Working with the pen and tablet is very much like using a traditional pen or pencil. Drawing, shading and tracing are very easy functions to perform. Indeed the ability to trace around an object is pleasurable compared to the 'drawing with a bar of soap' feeling

when attempting the same function with a mouse.

Pressure Sensitivity

Here again the pen offers a unique experience. Depending upon how firmly the pen is in contact with the tablet it has a direct influence upon the stroke being made. Pressure sensitivity can be set up to control opacity, size dual brush and/or colour dynamics.

Improved Workflow and Efficiency

These are important attributes as it is a more natural angle at which to work – reducing hand and wrist strain.

The most popular sizes for photographers working with both a restricted amount of desk space and a limited budget are the A5 and A6 models. My preference is for the A5 size but when presented with an A6 version – a situation that frequently occurs when giving demonstrations and workshops – I have no problem in the least swapping from one size to the other.

Many makes of graphic tablet include a battery within the body of the pen. Batteries frequently fail and even leak. The Wacom design does not incorporate a battery thereby removing a source of irritation. The Intuos 3 has many excellent features and I'll describe the principal attractions from a Digital Imager's point of view.

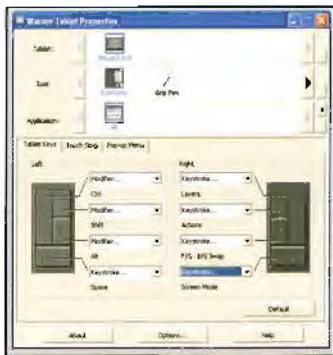
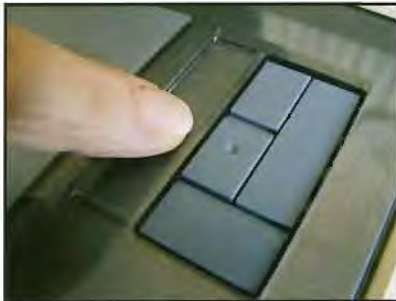
Using the Intuos 3

The pen is well balanced with a natural feel and a non-slip grip. At the opposite end to the tip is an eraser – rather like one of those pencils with an eraser built in. On the body of the pen is a small side (rocker) switch which functions like mouse clicks. Both the eraser and side switch can be set up to perform specific functions. The feel of the tip in contact with the tablet can be changed by swapping it for alternatives with a different textures and friction. Indeed the pen and tablet combination is designed to be both user-friendly and ergonomic. The pressure sensitivity of the pen can be set to suit the touch and feel preferred by the user. For programs such as Painter that include a huge range of specialised brushes, the tilt facility within the tablet



design enables this function to finely adjusted to suit the user. This is particularly advantageous when emulating the spray pattern of say an airbrush.

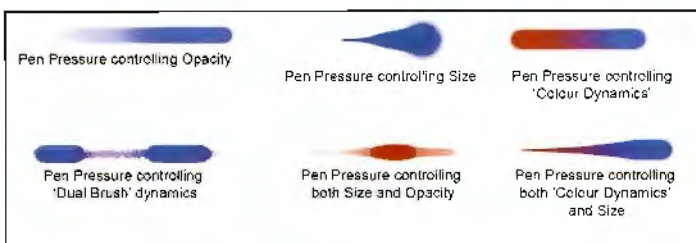
The sleek tablet part of this combination has been equipped with additional features. At each side of the working area are five touch-sensitive keys to which can be assigned a range of functions. This clever idea reduces the need to return to the keyboard for frequently used operations – greatly assisting workflow. The screen grab shows the functions I've chosen to assign these ten keys. One great thing about having the buttons set at each side of the pad is that it will equally suit both right and left-handed users. The extensive interface allows a high degree of control over just how the pen and tablet combination operates.



Wacom have invested an amazing amount of research and development into the product, even to the extent of including a refinement where if two users, each with their own pen, share the same tablet, each user can customise pen functions (tip feel/pressure, tilt sensitivity, side-switch functions and eraser tip) to suit their individual needs.

Numerous customisable Tablet Properties include helpful features such as the ability to run an application directly from the tablet via pop-up menus, accessed by clicking the side switch on the pen. It's also possible to customise the operation and feel of the pen for specific programs, for instance a different tip feel for Photoshop, Painter or a graphics program.

I'm impressed with the functionality, layout and practical design of the Intuos 3, and with it I certainly work more speedily and efficiently. I can heartily recommend the product, which is available in both standard and wide-screen versions, to all Digital Imagers.



Yorkshire RPS Digital Imaging Group Inaugural Meeting Report: 4 February 2007



L to R: Robert Croft LRPS, Phil Hack LRPS, Marjorie & Tony Furnmston FRPS, Norma Phillips LRPS, George Hodlin ARPS

We all had a superb day. It was a full house, with a total sellout of tickets, boasting an audience of more than 70 members and visitors. George Hodlin ARPS with his L and A Panels and Marjorie and Tony Furnmston FRPS put on a fantastic talk and demo leaving the audience wanting more! We have already received requests for tickets for the next lecture and demo and tickets will be available from 1 March. We are hoping to increase the seating from 70 to 90 but to avoid disappointment please purchase your tickets early.

Next meeting: 1000 – 1600 on Sunday 13 May Selby Community Centre, Scott Road, Selby. YO8 4BL. A talk and demonstration **Calibrate Your Digital Equipment with Simon Clifford-Smith**, a colour management specialist and **Exploring Photoshop with Sid Pearce FRPS**. Tickets £5 to RPS DI Group Members, £6 otherwise. Ample car parking. Contact: Regional Organiser : Robert K. Croft. LRPS on 01977 685262 or Email: Robert@robertcroft.wanadoo.co.uk

Further meetings: Sunday 5 August 2007: **Print Appreciation** - Members to bring their prints. **Getting the Best Results using PhotoShop with Paul Batty**. Sunday 25 November 2007: National Media Museum, formerly the National Museum of Photography, at Bradford. **PhotoShop Live with David Roley**.



Photography by Eric Foster, Selby



First Impressions

Doug Merrick is new to digital photography and tells us something of his experiences in the first year. He had thought for some time about going digital, previously having used Olympus and Nikon film camera systems. With his F3 and F4 Nikons he had a good range of manual and auto focus lenses so he started to look for a compatible digital system. And he finishes with a question so let's have some answers please.

It was natural for me to think seriously about the purchase of a Nikon digital body. But which one to go for? I ruled out the D2x on price grounds, although it would have satisfied my photographic needs very well. The D70 would have presented some problems when I wanted to use my cherished manual focus lenses. Just in the nick of time Nikon brought out the D200, which is just right in terms of size and features.

Having made my decision I placed an order with my usual retailer early in 2006. As it was a new body I was faced with the inevitable waiting period. Although the wait was unfortunate it gave me the time to prepare the ground. My existing computer would, I knew, not be suitable for image processing so a new more powerful machine was acquired. I had already learned, rather fortuitously, that the monitor would need to be calibrated. Hence a copy of Spyder 2 was purchased and installed. What next? Oh yes, I will need an external hard drive to store the images on, with back ups on DVDs. Finally I purchased a copy of Photoshop Elements 4. The full version was out of the question given all the expense I had already incurred, and there was still a lot more to come. Anyway, hadn't I been told many times that the Elements version had most of the features of the full CS program? And those it didn't have I would not need? I must admit I was a bit dubious about this given that the full version costs about £500 and my bits and pieces one was only £45. Not point in dwelling on it though given my circumstances. I was going to need some image processing software, especially if I was going to do all the wonderful things that I had read about other people doing, so Elements it had to be.

Clearly one has to go to some trouble, and not a little expense, if there is to be a successful switch from film to digital photography. But is it worth it? My initial reasons for the switch, no doubt like those of many other people, was to avoid the expenses incurred in the purchase and processing of films. Certainly it is much easier to supply potential clients with images, and without the worry of precious slides becoming lost or damaged. Furthermore, more and more people will only accept images in a digital format. Other advan-

tages for me as a wildlife photographer would be the effective increase in the focal length of the lens. My 300mm f2.8 lens, manual focus, with a 1.4 converter attached becomes 630mm at f4, and 900mm at f5.6 with 2x converter on it. The increase in effective focal length of a lens makes it is easier, all things being equal, to blur backgrounds. For example my 200mm micro lens becomes effectively 300mm and it creates this effect beautifully when certain species of dragonfly are photographed.



It is also wonderful to be able to change sensitivity in the camera., which means I don't have to carry more than one body - especially important for someone like me who has become careful about the amount of weight that is put on the back. The real revelation has been the ability to change white balance. For example in the autumn of last year I went out early one morning to photograph red deer. I arrived at my chosen location just as a very heavy thunder storm was coming to an end. For some time the sky remained very dark, and because of the heavy rain the deer had taken shelter in an area of trees. To give some idea of how dark it was I set the ISO equivalent at 400, the lens aperture was f5.6, and the shutter speed was 1/20 sec. Most of the deer cleared off when I entered the trees, but one continued to lie on





the ground and allowed me to take a couple of frames before it too disappeared. With the white balance set on shade the camera produced an image which has never been touched but which appears to have been taken in good light. It is an image which I could not have taken with my F4 film camera.

Any disadvantages? I can think of one. As a wildlife photographer I sometimes work in remote areas and can envisage some problems when the batteries have to be recharged. With the F4s it was simply necessary to put a new set of lithium batteries in each body before departure, with perhaps a spare set in the pocket.

Following the advice I had been given I decided that I should shoot all my images in Adobe RGB and raw file format. However, when I attempted to download the first batch of images from a card reader, using Elements, a problem occurred. A message came on to the screen advising me that the file was damaged or was of a format that could not be included in the organizer. A great start! I now realise that there is perhaps an Adobe raw plug in that I could have downloaded from the web - actually I learned this just recently when talking to other DIGIT members by email - what a great source of corporate knowledge.

Being faced with this problem I decided it would perhaps be a good idea to download the trial version of Nikon Capture as I had a feeling that things would be OK with this bit of software. This proved to be the case. It is a simple matter to download the images from a card reader using Picture Project and open them in Capture. Simple: even I could manage that! As I found it so easy to use I very quickly purchased the full version. My version, 4.4, has now been succeeded by the NX version, which I am told has more advanced features. Perhaps I will get this version eventually but at the moment it seems the original version will do me fine, given my current skill level.

It is my impression that the sole purpose of Capture 4 is to assist in the processing of digital photographic images. The NX version it seems is going beyond this and will, like Photoshop, allow things to be added and taken away. I imagine Nikon intend it to be suitable for use by all digital photographers, irrespective of the equipment used. However, at the moment, the original version is perfect for my use as I don't want to do any adding or taking away. Perhaps, as I have only recently moved away from film, I am still intent on getting things right in camera. If I have a set of images

that do not need to be adjusted I am delighted. A slight tweak here and there, usually just a little brightening, I can tolerate. After all, the less time I spend in front of the computer the more time I can spend out in the field.



Certainly at times more drastic action is required when things do not go to plan. An example of this occurred when I photographed a female chaffinch in the autumn of last year. The bird is brown and was photographed as it perched on the branch of a tree bearing brown leaves. The leaves of the trees in the background were also brown. Clearly there was very little contrast in the scene and the exposure was off. If it had been a slide it would have gone in the bin. As it was a digital image I decided to have a full blooded go with Capture.

First I went into advanced RAW to adjust the exposure. Sharpening was set to none. Next I carried out a slight adjustment to colour temperature in white balance. The LCH editor was used to adjust master lightness, colour lightness, chroma, and hue. Finally use was made of curves to fine tune red, green, and blue. It seems that this kind of systematic approach is the only way to put things right when they go horribly wrong. However, for reasons given above, I don't want to have to do it too many times.



Interestingly Nikon Capture can be used to open raw files in elements. Nikon have included a special filter for this purpose. I imagine the difficulty of a straight transfer from the camera or card reader had been foreseen. Although the filter expedites the transfer, very quickly changes occur. First the Nikon 12 bit is changed to 16 bit. Secondly, and the two may be connected, the RGB colour space set in camera changes to sRGB. That RGB is set in the camera is verified in the data for any image that is opened in Capture. I would be most grateful to any member of the group who could explain to me why this change occurs.

Sigma Lens Review

A stalwart contributor to DIGIT, Sid Pearce FRPS looks at two recent Sigma lens introductions. It's good to see a slightly younger Sid getting right down to some serious testing of an early lens in the picture alongside! Sid's approach is, as ever, the practical and direct photographer as he tests the lenses.



Sigma AF 30mm f/1.4 EX HSM DC



This lens is designed for cameras such as the Nikon D70 or Canon EOS 350D. It is one of the few fast prime lenses available for consumer cameras of this type. A Canon EOS 20D was used for

the purpose of this review.

Here are the specifications:

Lens construction 7 elements in 7 groups

Viewing angle: 45 deg Maximum aperture: f1.4

Min focus: 0.4m (15.7ins) Filter diameter: 62mm

Weight: 430g (15.2oz) Size: 3.05ins x 2.30ins

Includes Lens Hood and Case.

Mounts available: Sigma, Canon, Nikon-D, Sony, Pentax, and Four Thirds.

This is an EX for Excellence and high quality lens with a gold coated ring that signifies superior quality. The

DC denotes it is for exclusive use on a digital SLR and not on a 35mm film camera. The lens has a very sturdy solid feel with a smooth action when manually focused. The lens also has a very fast and quiet gearless HSM motor when Auto Focusing. Manual focusing is smooth and dampened. With an aperture of f1.4mm, throwing the background out of focus is a cinch. Close focusing distance is very good at 40cm (15.7inches). While being compact, it is not light at 15.2 oz. The lens has a comfortable feel and balances well on the Canon 20D.

In use I found that this extremely fast lens needs to be stopped down to about f4 to get a totally sharp image. Below this aperture there was a certain amount of light fall off towards the edges. Central sharpness was good but became a little soft towards the edges when used wide open. The lens can only be stopped down to an aperture of f16 as opposed to f22 or even f32 on lenses from the likes of Canon or Nikon. From f2 to f11 sharpness was very good but dropped off markedly at f16. Wedding photographers will fall in love with its low light performance. Portraiture and landscape photographers will also be well served with this lens. Overall this lens is a great performer and is a snip at a street price of £280.

Sigma 50-150mm f2.8 Telephoto Zoom EX DC HSM



Specifications:

Focal Length: 50-150mm Aperture: f/2.8

Viewing Angle: 27.9 - 9.5 degrees Min Aperture: f/22

Min Focusing Distance: 100mm Filter size: 67mm

Construction: 18 Elements in 14 Groups

Includes Lens Hood and Case. No Tripod Bush

Mounts: Sigma, Canon and Nikon-D.

Street Price: approx £500

This a nicely balanced lens with a hard wearing matt finish. The lens has both an internal zoom and focusing



Sigma AF 30mm at f/6.3

mechanism. Using an internal HSM motor the focusing is both speedy, quiet and accurate. There is also a supplied lens hood that fits over the 67mm filter thread and a padded lens storage bag.

This is a compact lens despite having a constant $f/2.8$ aperture throughout its range. Although there is no exact comparison, the viewing angle is similar to a 70-210 on a 35mm film camera.

With a close focussing distance of 100mm and a magnification of 1:5.3 the lens is quite handy for close up photography. Probably due to its small dimensions and light weight I was not troubled by the lack of a tripod collar.

As you might expect there is a slight amount of deterioration at $f/2.8$ on full zoom, but this is only noticeable when compared with the superb performance on minimum zoom at $f/2.8$. The use of several Low Dispersion glass elements has kept visible chromatic aberrations to a minimum. The use of lens coating has given excellent contrast and neutral colour control

This fast and easy to handle, quality lens is a pleasure to use. With its smooth and well damped control rings it will soon find a way into my camera bag.

*SIGMA 50-150 mm
at 100 mm at $f/6.3$*



Audio Visual News

With so much cross over between digital and AV work here's your update on this exciting special interest group's activities. And DI members enjoy the East Midlands discount too!

15th National Audio Visual Championships

Friday 21 to Sunday 23 September 2007 at The Civic Centre, Kingsway, Braunstone, Leicester LE3 2PP. 5 minutes from Junction 21 M1/ M69
Costs: Various packages are available from judging sessions only, through to all meals, beverages and judging sessions. Accommodation to be booked independently.

Jury: The digital sequences submitted will be assessed by Malcolm Imhoff FRPS (Chairman), Eddie Spence FRPS and Edgar Gibbs FRPS. Details from: www.navc.org.uk or Brian Jeffs on 0116 2778452 Email: brian-jeffs@tiscali.co.uk

RPS Audio Visual Group - East Midlands

Sunday 28 October 2007 1000 to 1700 at Narborough Parish Centre, Narborough, Leicester, LE19 2EL 3 miles south of J21 M1/M69.
Lecturers: Eddie Spence FRPS, Valerie Rawlins FRPS, plus Attenders' Sequences. Cost: RPS AV Group/DI Group £8.50; all others £10.50. Optional lunch £5.25

Contact: Beth Elston on 01530 224206 or Email: beth.elston@btinternet.com

Under 25s RPS International Digital AV Competition

Maureen Albright ARPS writes: I now have permission from the Society to go ahead with a brand new RPS International Digital AV Competition scheduled for early 2008 which will be web based and specifically for young people under 25! So lots of work and a busy time! I need your help on colleges and schools all over the world who have a photography department and would be interested in taking part and encouraging their students to participate either individually or as a group. There will be cash prizes for the students and a prize for schools and colleges.

All rules and information (and more) are at:

www.avg.rps.org
www.digital-av.co.uk,
www.digwessex.rps.org
<http://www.southwales-dig.rps.org/>
www.maureenalbright.com

Please spread the word so this information about digital Audio Visual Photography gets into the college curriculums as soon as possible.

WORD SEARCH WITH A DIFFERENCE WITH CAROLE HEWER ARPS!

Just look carefully and you will find the surnames (family names) of 15 regular contributors to the DI Group website Folio. Not familiar with the Folio? Just log on to www.digit.org.uk and as well as enjoying the images see if you can spot these regular photographers' names. Then search horizontally, vertically and even diagonally to find the names. If you're really stuck on the last one then a little peek at page 31 is allowed.

L	O	N	G	A	B	E	S	E	N	I	A	H	X	S
A	C	T	Y	H	U	I	K	M	G	T	F	W	T	R
P	S	R	H	A	N	O	S	N	E	H	P	E	T	S
L	D	H	A	N	X	B	Y	J	O	P	L	A	J	N
M	F	N	L	D	T	V	D	E	D	M	A	N	U	Y
K	H	O	U	S	L	E	Y	Q	E	F	T	G	N	H
H	T	T	L	V	G	C	I	V	L	I	N	T	O	N
K	B	Y	H	T	O	F	H	Z	W	D	F	T	H	R
G	R	O	N	H	K	J	H	E	X	D	M	I	L	E
N	N	A	T	K	N	K	N	V	A	B	N	U	L	L
D	A	L	L	S	V	I	C	B	T	L	B	S	E	T
D	S	L	N	C	D	E	K	L	M	S	Y	H	P	S
T	T	H	N	O	S	N	I	B	O	R	F	U	P	I
M	H	D	O	L	D	C	K	L	N	V	B	N	A	H
L	L	E	D	G	A	R	D	L	G	Y	U	K	H	W
S	H	N	H	H	S	K	E	L	L	Y	N	M	C	S

2006 DI Group Exhibition DVD Ready

We now have the DVD of last year's exhibition available for clubs and home use, with a commentary on each individual print selected. Our chairman, Clive Haynes FRPS, has provided a thoughtful and intelligent comment alongside each of your images. It should prove an entertaining and instructive session at your local meeting or at home especially if you were not able to get to one of the venues around the country where the exhibition was shown.

With a total running time of over an hour, you can play the DVD in a domestic DVD player connected to a television set, including the large screen monsters now available. The DVD will also autorun on a PC or laptop for personal viewing. You can pause the show at any time - or speed it up. Mac owners running iDVD software will be able to open the slide show automatically.

For your copy send a cheque for £6 (£8.50 for delivery outside the UK please) made payable to **RPS DI Group** to: Graham Whistler FRPS, 9 Cherrygarth Road, Catisfield, Fareham, PO15 5NA, UK

Making DVD slide shows from P2E and ProShow

Ray Wallace Thompson ARPS who at 90 years old is, I believe, my oldest regular contributor tells me that his first AV shows were made on a Grundig TK in 1959 and then on Ferrographs. Now they are made using P2E. His studio is barred from intruders, especially wives! But of course he likes his wife and friends to see his slide shows. Most of us can't run to a digital projector so the alternative is to show them on the television through a domestic DVD player. First attempts were not too successful and he gave up. Since then the process must have changed and become easier?

Well, has it? Who will write this up for DIGIT?

And what about ProShow? This comprehensive software, like all new things, does take some getting used to but I personally love it for making shows, with music, and popping them straight onto CD or DVD all within one program. The digital imaging preparation is key to a successful show I believe so more on this aspect in the autumn issue.

Sid Pearce FRPS investigates B/W Styler - a Black and White conversion plug-in using his own photographs to show us how well it works.

This is the latest plug-in that Harald Heimer has released in his PhotoWiz series. It is a Photoshop conversion plug-in compatible with many graphics programs including Photoshop, Photoshop Elements, PhotolImpact, Photo Plus, Irfan View and Photo-Paint.

B/W Styler works in three modes: inexperienced, intermediate and expert modes. As an inexperienced user you can easily change to one of the advanced modes as your capabilities increase. Initially the Photographer's mode gives you many presets to choose from including fifteen different B/W film types, film speed, filters, paper types, twenty tones including Bromoil and Selenium and many types of effects. Each of the effects can be adjusted to your own taste. I particularly like the split colour, blur and mist effects.

Expert users can use the B/W Quick Mode for doing complicated B/W conversions with the use of fifteen different slider controls. Then if you really fancy your chances you can fine tune your picture using the many presets and sliders. Additionally, if you decide to go from 8 to 16 bit per channel before running B/W Styler it will produce high quality B/W conversions and will retain the quality even after returning back to 8 bit per channel.

I can recommend this Black and White conversion plug-in, not only for its controls, numerous tools and ease of use but most of all for its tremendous value for money.

B/W Styler is currently only available for Windows. A Macintosh version is planned for 2007. B/W Styler is available as a download from:

<http://www.thepluginsite.com> at a price of \$49.95 or as a demo from the same site.



*Archway Jordan
Ilford Pan F Plus
Paper Grade 2
Normal*

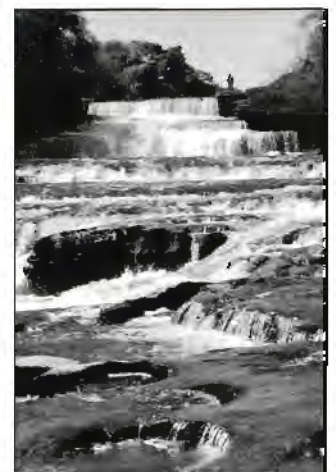


*St Vitus
Cathedral
Prague
Ilford Ortho
Plus, Paper
Grade Normal.
Toned Sepia*



*Full Spate
Kodak Plus X,
Paper Grade 2
Normal,
Selenium Toned*

*Brinkburn Priory
Fuji Neopan,
Paper Grade 1,
Tone Collodion*



First thoughts on Photoshop CS3 beta from Glitta Lim LRPS



I'm still using the beta version of CS3 at the time of writing. It's very impressive

that for the time ever we were able to see without paying what the latest PS version has to offer. Quite a lot I think. I'm not going to dive in very deeply to the new features here as you can find out on several websites and magazines. The interface has been

redesigned but is quite straightforward to use so let's have a look at it.

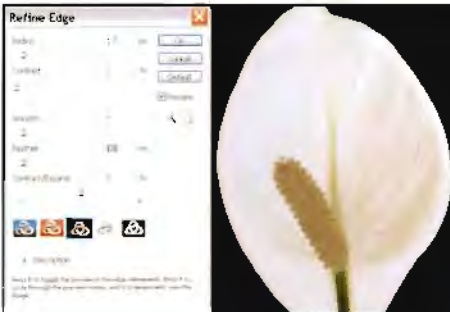


So often we wish to separate our main subject or change and blur the image background. I took this ghastly shot to illustrate what can be done in CS3.

I used a new tool called Quick selection Tool to select my flower - found underneath the Magic Selection Tool. You simply paint with the tool on similarly coloured areas and a selection is created. Mistakes can easily be corrected by using Alt key Subtract from Selection and to Add to the Selection using Shift key. The smaller the brush used when correcting, the more accurate result - best to zoom right into details, at least around 300%. It worked very well, even to a perfectionist like me, having been a great fan of the Pen Tool which is very time-consuming for creating selections. In my opinion the Quick Selection Tool is also far superior compared to Magic Selection and various Lasso Tool options.

Another useful addition in CS3 is Refine Edge where various options are offered to smooth out selection edge effects. Results can be checked out in five different masks to see exactly what your adjustments will look like. Naturally the edge corrections can be done in previous PS versions but are much more time-

consuming to carry out in Layer Masks. Here edge adjustments can be done before committing the effect.



Having selected the flower I created a new layer (CTRL+J) and adjusted the flower's position in the frame (Edit/Transform/Rotate). I created a new background layer and added a yellow/black Gradient on it. Done! Much faster workflow than in the previous Photoshop versions.

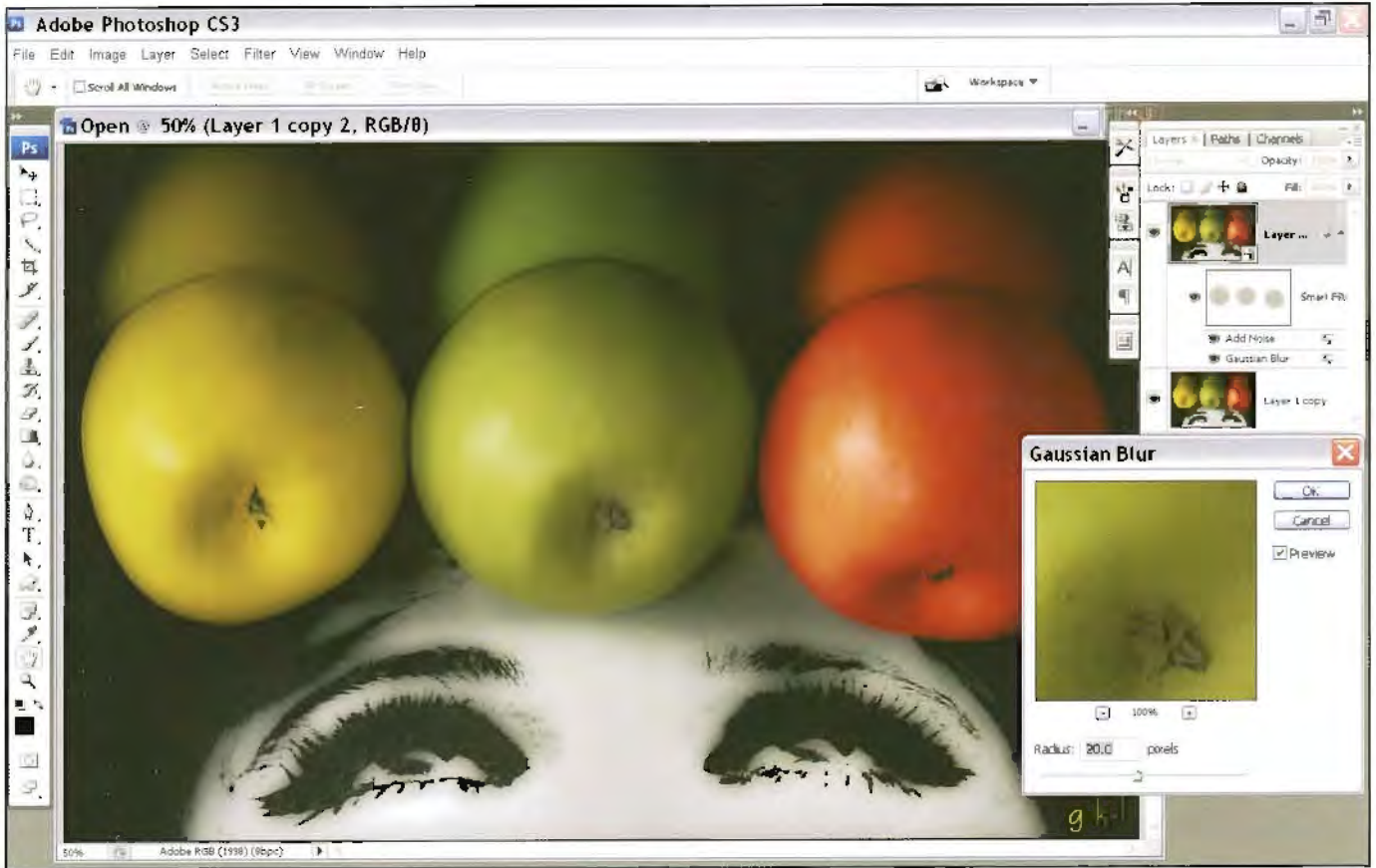


The final touch was to boost yellow in the flower stamen again using the Quick selection Tool. I also created a new layer for a keyline border and added Gaussian blur to soften its effect.

Non-destructive Smart Filters is another new feature which enables filters to be used with layers without changing the pixels within. You'll find it in Filters/Convert to Smart Filters. In one converted Smart Filters layer several filter effects can be applied and are all adjustable afterwards. All this can be carried out using ordinary layering methods in previous PS versions. However, it's much more useful to have only one extra layer with several adjustable filter effects.

In the sample image on the next page all apples were originally green. I coloured one red and one yellow using Quick Selection Tool and a Selective Colour adjustment layer. I then copied the layer and converted it to Smart Filters. I added Gaussian Blur filter at 20% to create a layer mask and changed the blending mode to Darken. I used the Gaussian blur Filter Mask and painted out some of the blurred effect from the apples to bring back original details using black paint in the foreground colour and a soft edged Paintbrush Tool at a low opacity.

The second filter used was Noise to add some grain in the image. As you can see from the image both Filter Masks can be reopened by clicking on them and



readjustments can then be made afterwards. I find the Smart Filter method very useful as I would have needed to use two separate layers in previous PS versions to apply filter effects which would then not be adjustable; and the file size would have ended up being much larger.

CS3 also has a new and useful way of converting a colour image to black and white – in Image/Adjustment/Black & White. It's helpful that an Adjustment Layer can be used. Colour sliders can be used for making custom adjustments and their effects can be viewed in the black and white conversion while adjusting. There are 10 additional preset filter effects and they can be further adjusted manually. I chose in this sample the Neutral Density preset which gave a quite good and contrasty result. Infrared pre-set with this image looked rather interesting too.

The old Channel Mixer (Edit/Adjustments/Channel Mixer) now also has new pre-sets; all traditional black

and white photography filters and an infrared one. Several existing features have been updated; the Vanishing point has new multiple angle perspective planes option. Curves also has new pre-sets for

various effects, to increase contrast for example.

The Photoshop CS3 RAW Converter has also been updated and has several new adjustment controls. Apart from RAW files now both jpeg and tiff files can be also be opened for RAW adjustments. The Bridge file browser also has new features: you can now open several images for comparison in the Preview panel. A magnifier is also added which enables zooming in to see details of any part of the image.

It will be interesting to see whether further improvements have been added to the final production version which perhaps has been released by the time you are reading this. I certainly look forward to using it.



On pages 24 and 25 Graham Whistler FRPS tells us of his experiences shooting a video on the Darjeeling Himalayan Railway. Graham has



generously offered a substantial discount to DIGIT members as well as a contribution to Di?Group funds. The commercial price is £19.95 but you may buy it for just £15, including post and packing. Please add £2.50 for postage outside the UK. Graham will also donate £5 to the RPS DI Group for each DVD sold. Please send cheques payable to **GWProductions** to: Graham Whistler FRPS, 9 Cherrygarth Road, Catisfield, Fareham, PO15 5NA, UK.



High Dynamic Range Images

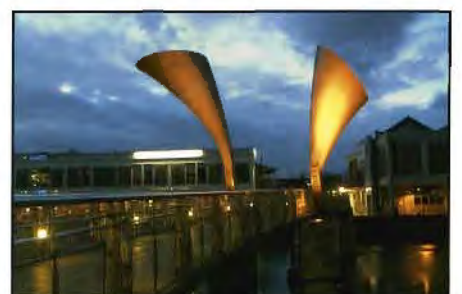
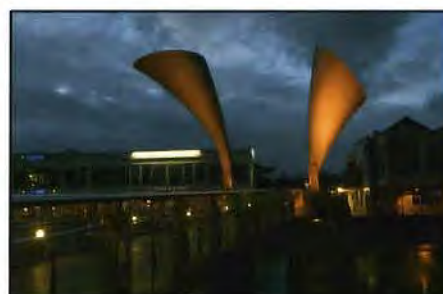
Colin Rayner LRPS was introduced to the idea of High Dynamic Range through reading an article in a photography magazine. The examples with the article were so stunning he was prompted to have a go himself. He was used to bracketing exposures in tricky lighting situations to make sure of a decent exposure but had never tried merging them before. Here Colin shows us some of the results and tells us of his practical experience.

Colin has been interested in photography for over 30 years but it lapsed for many years while the children grew up. Early retirement and the advent of digital photography kick-started his interest in Autumn 2004 and now he's obsessed again. Colin told DIGIT that he can't let a day go by without going out with the camera. Thank goodness for digital and large memory cards! In November 2005, he gained his Licentiate and hopes to think about the Associateship sometime in the future.

Current equipment is a Nikon D70 with various lenses including 10-20mm, 28-70mm, and 100-300mm zooms but Colin would love to upgrade to the D200 soon. He wonders if this is called Nikon Acquisition Syndrome (NAD)! As well as on his own website, <http://photography.colinrayner.org.uk>, some of his pictures are available at Gallery2C - <http://www.gallery2c.com> - and recently he was delighted to sell his first prints.



The examples here were all taken with a Nikon D70, and were the result of merging three exposures, bracketed by +/- 2 stops, and using Photomatix. Most DSLRs make this easy with an automatic bracketing feature.





I found the process in Photomatix quite simple, involving two stages, Merge and Tone Mapping. Merge just allows you to specify the images to be merged, anything from two upwards. The software reads exposure details from the file and if it cannot it will prompt you for the exposure difference between the images. The resulting image will look very strange indeed as it is 32 bit and cannot be displayed properly on a monitor, with no highlight or shadow detail at all. Using the Tone Mapping converts to 8-bit or 16-bit value, which can then be displayed and printed on conventional LDR monitors and printers, but preserves the expanded tonal range of the 32-bit HDR source image. The result is often quite staggering !

There are a number of other controls in Photomatix (for example for saturation, luminosity and contrast) but leaving them at default settings seems to work and you can always tweak in PS afterwards.

Many of my attempts at HDR are dusk images, involving lights and with some light in the sky. I've had some problems when including anything which is moving in the picture, especially if using long exposures as would be the case at dusk. Water can be reduced to a smooth glassy effect (not always bad), but trees moving in the wind just gives a rather bad blurred effect.

The other problem is that you're tempted to take three or more bracketed shots of everything in case it's a

suitable image for HDR treatment and many things aren't. Thank goodness for 1GB memory cards!

Now I've tried merging three exposures, I'll have to try five, seven, nine ...



Cloisonné Ware: How It Is Made

Bert Housley ARPS MBE was kind enough to tell me that he thoroughly enjoyed reading the Winter 2006 issue of DIGIT so when he told me of his trip to China I jumped at the opportunity of an article. Last year Bert and his wife had a special five week holiday to celebrate their eightieth birthdays as well as their 58th wedding anniversary. The holiday took in the Rockies, Alaska and many other places finishing in Beijing where they spent three days. You can imagine that during the trip Bert took hundreds of pictures and he says he's still sorting the wheat from the chaff. Here Bert gets into close focus on the famous and ancient Chinese enamelling process of Cloisonné.

In China we took a coach trip to the Great Wall and, on the way back to Beijing, we stopped at a restaurant for lunch. The restaurant was on the upper floor of a large cloisonné factory. We were given a guided tour of the factory where I quickly grabbed some pictures.

This is done with several pieces of copper sheet that are formed and then soldered together.

A design is drawn on the piece by pinning a pattern to carbon paper, which is carefully traced to transfer the

design to the surface of the copper. Cloisons, small pieces of copper wire, are bent to various shapes with pliers and fingers, following a paper pattern. From my observations it seemed that when sufficient cloisons had been formed they were placed in a special tray and then sent to be annealed.



They were all grab shots when lots of people were milling round. I spent all my working life in the metal bashing industry, (cutlery and silverware) nearly all of it on the factory floor where sheet steel, nickel silver and sterling silver was formed into spoons, forks and knife handles in all sorts of sizes and designs, from a tiny mustard spoon to a large soup ladle. So, I was fascinated to observe the making of cloisonné. Making cloisonné products is highly labour-intensive and highly skilled yet nearly all the craftspeople were quite young.

The annealing is probably done to stop the cloisons from springing out of the shape shown on the pattern.

After dipping the bottom edge of the cloisons in a special adhesive (it most likely contains a flux to facilitate soldering) they are placed in position on the product using tweezers. Soldering then takes place and the cloisons become an integral part, slightly upraised, of the product.

The Chinese say: 'Cloisonné enamel was probably introduced to China by missionaries from central Asia during the Yuan Dynasty (1279-1368). It used to be reserved for the Emperor and his court but today everyone can enjoy its magnificence.'

The raw materials used are copper sheet, copper wire and enamel paste in a variety of vibrant colours. The first operation is to construct the basic product that will, for example, eventually become a magnificent vase, bowl or figurine, to name just three.

Eyedroppers fill the cloisons with enamel paste before firing in an electric kiln. Heat vitrifies the enamel which settles into the cloisons. Three or four coats of enamel in a variety of colours are applied and fired until the cloisons are completely full.



Eye droppers are used to fill the cloisons with enamel paste, then the piece is fired in an electric kiln. The heat causes the enamel to vitrify and settle into the cloisons. Three or four coats of enamel are applied and fired until the cloisons are completely full.

The enamel surface is ground smooth on a simple lathe using water and fine emery stones. It is then re-fired. The final polishing is also done on a lathe, but with water and charcoal. The final step is to electroplate the exposed copper with gold, which does not tarnish.

Alongside the factory was a large showroom where hundreds of cloisonné products were on display. These could be purchased much more cheaply than in the UK.



50 to over 1000 in TWELVE YEARS!

John Long ARPS tells the remarkable story of the DI's great leap forward

So we must have been doing something right!

I have been press-ganged into writing a piece about the rise in membership of the Digital Imaging Group, from the small numbers in 1995 up to the present time.

I am sure there are some of you who were there at the beginning, but to acquaint the rest of you, it all started with an announcement in the RPS Journal early in 1995 stating that a new Special Interest Group was being considered to cater for the growing interest in digital imaging. Those interested in joining such a group were asked to contact headquarters and about 50 RPS members did just that. 16 of those people attended an initial exploratory meeting at the Soroptimist Club in London on Saturday 20 May 1995.

As would be expected, the late Barrie Thomas FRPS was one of those people – nine others being Michael Austin HonFRPS, Geoffrey Carver LRPS, Adrian Davies ARPS, John Henshall FRPS, John & Annella Birkett, Prof. Ralph Jacobson HonFRPS, Glenys Taylor ARPS and Jack Casement FRPS. Are you one of the six missing names?

It was agreed to form a working party and this small group of enthusiasts beavered away under the chairmanship of Michael Austin to produce a constitution and made other essential decisions. Eventually RPS Council agreed at their February 1996 meeting to the formation of a group to be known as The Digital Imaging Group. Geoffrey Carver accepted the role of the first secretary, and Barrie Thomas the first editor. Issue No1 of DIGIT was circulated in the summer of 1996 and the then President Robert Moore FRPS offered a welcome message which

included this prescient phrase: *'I am sure the RPS Digital Imaging Group will be hugely successful and a great asset to the Society. I give it my whole-hearted support and I intend to send off my subscription to the group immediately.'*

I am pleased to say Bob is still a member today and contributes to DIGIT!

By the time of the first AGM in April 1997 there were 200 members and by the second AGM a year later the numbers had risen to 450. At this AGM, in 1998, Glenys Taylor ARPS was elected as Secretary and has operated in that role with superb efficiency ever since. Regretfully, she will be standing down at the AGM in April.

By any standard, the growth and success of the Group over the past twelve years has been exceptional, probably due in no small measure to the enthusiasm and guidance of Barrie Thomas FRPS, who took the role of Chairman at the AGM in April 1997. Many of us have him to thank after attending one of his workshops or lectures in those early years when Photoshop was a mystery!

It is interesting to note that our constitution states that we should *'be involved with a state of integration of digital imaging with silver-based photography such that eventually there ceases to be a need for a specialist group'*. This issue is raised at almost every AGM, and those present vote unanimously for the DI Group to continue.

This edition of DIGIT is No34 and continues to be a flag-bearer for the Society, using the Society's corporate identity on our cover page.

Using A Nikon D200 In India

In October 2006 Graham Whistler FRPS with his wife Wendy who is also a DI Group member and several 'puffer nutter' colleagues flew to India to make a film on the Darjeeling Himalayan Railway. A regular contributor to DIGIT, Graham shares the team's fascinating experiences of India with us.

There were three of us filming. All work would be with 3CCD Pro Digital Camcorders so that left just enough room in the airline regulation size camera case for a modest sized digital SLR. The Nikon D200 with the 18-200mm AF-S VR lens fits the bill perfectly. My co-producer Gordon Rushton (who snapped me in action filming near the summit of the line - opposite) and I have been using them for nearly a year by then and were very happy with the results. We are cautious about getting dirt on the CCDs working in dusty countries. The wide zoom range is a major advantage for travel photography with the lens remaining firmly on camera. The D200's robust magnesium alloy body has professional quality seals helping to keep out dirt and damp. We needed portable and tough equipment for jumping in and out of 4+4 Toyota's as we filmed the little steam train climbing to 7407 feet (2258 metres) in the Himalayan Foothills.



The last of the monsoon storm clouds was gathering as we flew into Kolkata's Dum Dum Airport. India is a shock: it was not my first trip but the noise, smell, dirt, pollution, poverty and sheer mass of people hits you in the face! We fought our way to the queue of 1950s battered yellow taxis. Many hands pushed and shoved to earn a few rupees helping with our cases. We watched in trepidation as our luggage was jammed into three ailing 'beasts' but I would not let go of my precious camera case. Taxi boots were secured with ropes, an old chain and padlock. Our intrepid and very skilled drivers launched us into the confusion of Kolkata's rush hour. With market stalls lining the streets I soon had the D200 in action out of the open taxi window. The auto focus was not as quick as my D2X so some shots were missed. Pointing a camera in India can cause problems with angry people wanting



to be paid. Try photographing a snake charmer in Delhi and you will soon have very angry helpers chasing you for hard cash! From a taxi window you can take pictures without being seen.

As we arrived at our hotel the last monsoon storm hit us. In moments the dirty streets were flooded. By evening the rain finished. Some of us ventured forth to take pictures as the sun sank down over the Hoogli River. Bathers gathered cooking and drinking water as I took pictures against the setting sun. The strange colour is caused by exhaust pollution; the smell hits the back of your throat. I worked quickly but they were far too busy to worry about a lone photographer on the steps above the river. An open sewer discharged its contents on the steps above me and washed round my feet into the river! On that note we made our way back through the crowded streets to our hotel to eat an evening meal with some caution. Next day we flew North to start filming the Darjeeling Himalayan Railway.

The little 2 foot narrow gauge steam railway climbs the Himalayan foothills from New Jalpaiguri to the summit at Ghum 7407 feet and then drops to Dajeeling 6812 feet. Darjeeling is one of the old hill-stations, a major tea growing area with dramatic views of Kanchenjunga 28,156 feet (8582 metres) the world's third highest mountain. The 55 mile railway twists and turns all the way up with several dramatic loops and Z reversing stations needed to gain altitude. Several stops for water and even trackside repairs mean the trip can take up to 10 hours climbing most of the way. Filming the train is easy with the old Kart Road following nearly all of the way. The track crosses and re-crosses the





road many times with no gates or warnings lights. We had two Toyota 4+4s with highly skilled local drivers, a major advantage on such a dramatic and unprotected road with sheer drops of 2000 feet to the valley below in some places. We could keep up with the train, film it through windows or over-take and set up tripod and camera with plenty of time to film the action. Shot finished, pack up, back in the Toyota and in no time catch up the train, pass and set up for the next shot. When the train paused in stations there was time to use the D200 but most of the action needed to be filmed for our new DVD.

The whole area is full of amazing subjects for the keen photographer. The railway runs through the streets of several ramshackle villages with the little engine blowing the whistle to clear a way through the mass of people and animals. Young boys run and jump onto the passing train to hitch a free ride - all good fun! We were lucky with plenty of fine clear days. The Nikon D200 produced super pin sharp images and 99% of the pictures needed very little exposure correction to the RAW files. At times the camera was covered in dust and exposed to some rain and plenty of steam with a UV filter protecting the lens. Regular cleaning with a soft cloth became routine every evening while downloading images to laptop. At the end of the trip the CCD was still free of dirt because I



never removed the lens. The 18-200 worked very well and apart from the slight focus problems from a moving train or taxi. Image sharpness even wide open is of a very high order throughout the zoom range. In poor light the VR (vibration reduction) enables you to take sharp hand-held pictures at very slow shutter speeds. Some indoor pictures I did with the lens at 18mm and an exposure of 1/2 second gave good sharp A4 prints.

Costs of travel and hotels in India are very low by UK standards. For special filming we even hired our own complete steam train for a day of filming. The train with crew cost under £400 for a full working day and with three of us filming it we got all the extra material we needed. We are very happy with the results and hope to publish the two hour DVD soon. My only regret was not having more time for stills photography.

See page 19 for a special DIGIT offer on Graham's DVD.





Film Free Projection

In an earlier DIGIT Nigel Plant LRPS explained how he used a Mac to run digital competitions. Here Andrew Pepper LRPS tells us of his approach - a specially written program for PCs. At first Andrew used Microsoft's presentation package, PowerPoint. Fine for a basic competition, essentially projecting a series of images, even holding back some to be scored at the end of the competition. The contest was successful but Andrew found PowerPoint limited as a competition package. So began an investigation of other programmes which led to Andrew developing Film Free Projection (FFP). Want to try it out? Contact Andrew at andrew@rgmm.co.uk or see his website at: www.rgmm.co.uk

A Nice Problem to Have

The programs I looked at fell into two camps: presentation software and media management software. As well as PowerPoint I tried around half a dozen packages, running imaginary competitions using a laptop computer connected to a second monitor which acted as the projector. As I dutifully typed up my impressions for the camera group's website, I was growing slightly dissatisfied - most programs could run a basic competition; but some of the things I had to do were awkward - for example, once I'd loaded the images for a competition, I wanted to shuffle them - put them in random order. But I also wanted some images not to move during a shuffle; if I had a title image saying *The End* I wanted it to stay at the end of the sequence whatever. This kind of thing was easy with conventional slides. Why should be difficult with a computer?

The other thing that I was thinking about was some specialist competitions we ran which used two projectors - we couldn't afford to buy a second digital projector and laptop, especially for occasional use, so would we have to abandon some competitions?

It struck me that if we were going into a new digital era it was ridiculous that we should have to give up some of the flexibility and functionality of slide systems - surely things should become easier, not impossible, because of new technology. It was at this stage that I decided to have a try at writing a program specifically designed to run camera club competitions.

The result was Film Free Projection (or FFP for short) and we've been using FFP for our competitions since early 2006. FFP takes advantage of the setup of the vast majority of camera clubs: a laptop computer connected to a digital projector. This means that there are

two monitors - one is the laptop screen and the other being the projector. The operator controls FFP using the laptop: all that appears on the projector screen are the members' images. We can see FFP in operation here: the images in the competition are in a table: FFP calls the list of image files a *sequence*. To project any image I simply click on



it with the mouse, or use the cursor keys on the laptop to move up and down.

Using Two Monitors

Some of you may have sprung to your laptops to see if it supports two screens: almost certainly it does. However, before trying to configure the second screen, I'd recommend you actually plug a monitor into the monitor port of the laptop. Some laptops detect if a second monitor is plugged in and won't allow its attachment unless it's actually there.

The first step in configuring dual screen mode is very vague as the technique for enabling (or attaching as Microsoft calls it) the second screen varies from machine to machine. On the camera club's laptop, the manufacturer (Packard Bell) provides a utility to configure how the second screen is used - it can be set to clone the laptop screen or extend it. For FFP one would want to extend it and use the laptop screen as the primary screen.

With the second screen enabled, you may still need to configure Windows display settings. To do that, right-click the desktop and select Properties: you'll see the Display Properties window appear - make sure the Settings tab is selected as shown here.



You can see from this example that this particular computer has two screens but only one is attached. To attach the second screen right click it and select "attached".



Finally, you can drag the second screen to reflect how the two screens are positioned - for the club competitions the second screen is above the first screen as the projected image is physically above the laptop. Once the screen is in position you can click OK. The screens will probably jump around as they are reconfigured by Windows but, assuming all is well, the second screen will burst into life. Once that has happened, you can spend a



minute or so playing with the novelty of being able to drag windows between the screens, but your system is now ready to run FFP.

Types of Competition

The regular camera club competitions usually operate in one of two ways. In one the judge looks through all the images, commenting as they go and giving a mark for each image. Sometimes, the judge will ask for images to be held back for scoring at the end of the competition. A scorer writes down the score for each image as it is given.

The second style of competition is a whittling down of the entries to a winning image or top three images. The judge repeatedly goes through the slides, commenting on and removing images and by the end of the competition we have a winner.

I tried to make running these competitions as simple as possible; for a start FFP can print out a score sheet with the image author, title and thumbnail so the scorer can quickly find the appropriate slide as shown

here. Holding back an image is straightforward: the operator presses the space bar on the laptop – the image will vanish from the table and the next image will be projected. At the end of the competition the operator clicks the “Held back Only” click box and all the held back images appear.

Image	Author	Title	Score	Notes
	John Smith	Autumn in the Park	8	
	Jane Doe	Spring Blossoms	7	
	Bob Brown	Summer Sun	9	
	Alice White	Winter Snow	6	
	Charlie Black	Autumn in the Park	5	
	Diana Green	Spring Blossoms	8	
	Frank Blue	Summer Sun	7	
	Grace Yellow	Winter Snow	6	
	Henry Purple	Autumn in the Park	5	
	Ivy Pink	Spring Blossoms	4	
	Jack Orange	Summer Sun	3	
	Karen Red	Winter Snow	2	

For the elimination style competition the operator presses the delete key and the selected slide vanishes from the sequence – although there is an Undo button just in case.

Mix and Match

Apart from these competitions, there are some variations that other camera club members will recognise: For example, Mix and Match. With traditional slides, this involved two teams and used two projectors and two screens and a fixed number of slides per team. One team would put up a slide and the opposing team would try and match it – produce a slide that was similar. An unbiased judge would say whether the slide matched. One of the rules of a Mix and Match competition is that the same slide cannot be used twice, so towards the end of the contest it gets harder to find matching slides.

FFP runs a digital Mix and Match competition using a single projector and laptop. Each team supplies a folder of images to the operator who loads them into FFP and starts the Mix and Match competition. FFP then guides the operator through the competition, asking each team in turn to select an image. After each

image is projected, it is automatically removed from the team’s selection.

FFP uses a split screen technique to display both images simultaneously for comparison by the judges.

Knockout

The split screen technique is also used for a knockout competition. In this style of competition two images are compared and the judge picks the best of the pair. The loser is eliminated and



the winner goes through to the next round. At the end the round the operator can see the winning slides.



FFP has a couple of tricks up its sleeve for a knockout competition: first of all if the number of entrants isn't a power of two then the first round is an elimination round – a number of slides get a bye to the next round. FFP does the calculation and passes through the appropriate number of slides. The second trick is that it shuffles the images between rounds. Using the EXIF information for each image (described below) it tries to avoid putting two images from the same author against each other.

EXIF

FFP reads the EXIF information associated with JPEG files. This is mainly information added by digital cameras when the shot was taken - the exposure time and f-stop, date and time of exposure and so on. The most useful information it reads, however, is the author and title - these are set (or at least they *should* be!) by the author before they are submitted for competition.

Step by Step - Before the Competition

Nowadays digital competitions are fairly smooth operations. Members are used to submitting images either by email or memory stick, usually the week before. If I am the projectionist for the competition, I load them into the laptop and check that the author's name and title has been set. FFP only supports JPEG images so if anyone has submitted another format the image will have to be converted with Photoshop.

Once I have all the images, we can use a very useful PowerToy from Microsoft - ImageResizer. As the name



implies, this utility gives a simple way of resizing image files to fit a particular sized screen. To find this Powertoy search for Microsoft Powertoy with Google and the first result should be a link to the appropriate Microsoft page. With ImageResizer I can select all the

submitted images and resize them to fit the resolution of our projector. Although FFP will automatically shrink or zoom images to fit the screen, if the images are oversized then it slows down loading.

Now all the images are ready I start up FFP and select *Load images* from the File menu. The file selector opens up and I navigate to the folder holding the image files, select them all and load them in.

With the images loaded into FFP, I select *Load Images* again and navigate to a separate folder which holds the club's standard Title slides and load those in. Once they are loaded I drag and drop them into position - an introductory one at the top, break time in the middle and so on. I'll also right click the title slides and select an option to lock it into position. One special title slide introduces held back images; this is placed at the top of the sequence, locked and then I'll press the space bar to hold it back - it vanishes from the visible sequence.

All the images should be loaded now and the title slides in place but the chances are that the images are in alphabetical order of file name - that's the order that Windows will present them. To fix that we click the shuffle button: the images are shuffled but the locked title slides are kept in position.

Now I can print out a score sheet ready to present to the scorer and save the sequence. FFP doesn't save copies of the images, just the names of the image files and where they are, so you must not delete or move the image files.

That's it! I'm ready for the competition.

Step by Step - Competition Time



on the projector, I click the *Test Slide* button on FFP to

On the competition day, I set-up the laptop and digital projector and run FFP. The projector will be showing the extended desktop - in our case a Mill Camera Group logo. To check the zoom and keystoneing is set correctly

project a grid that completely fills a 4:3 screen. With the projector configured, I load the previously saved sequence. I click the projector button to start projecting and we'll see the *Welcome to Mill* title slide.

Most judges like to have a quick look through the images. FFP has an AutoChange facility, to go through the sequence of slides automatically. If the judge wants to know the titles of images, I can turn the Titles option on and FFP will briefly superimpose the title on the projected image. The competition proper is straightforward and as explained we can use the mouse or cursor keys to pick the image to project and press the space bar to hold back an image.

Rotating and Flipping

I naively thought that the age of back-to-front or wrongly aligned images was past us but of course scanning slides makes it easy to get a back-to-front image and we've also had the occasional images that needed to be rotated. FFP provides an options menu for each image that allows images to be flipped or rotated. This actually rotates the original file so, obviously, shouldn't be done if it's the only copy of an image.

Finishing Up

Once all the images have been seen, we start the Held Back images - clicking the *Held Back Only* box changes the table to show only the held back images, which starts with the Held Back title slide - remember that we placed it at the top of the sequence and locked it into position. Now we can project the held back images in exactly the same way as for a normal competition.



Running a digital competition will never be the same as running a slide competition. It takes longer physically to load images from twenty memory sticks onto a laptop's hard drive than to load 60 slides into a carousel. Also with slides you'd never have a problem with two having the same name! On the other hand, if the judge asked for the image titles then with slides that could be very awkward and if someone wonders what exposure time was used for an image then a simple click of the mouse and we can tell them.

Developing Film Free Projection has been an interesting project for me and it continues - I'm always keen to hear of other camera club competitions that are currently run with slides and could be added to FFP. The program has also proved that going digital shouldn't be a good reason for not being able to do something!

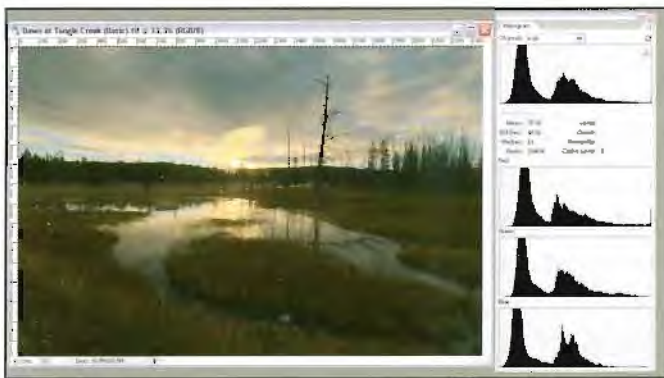
High Dynamic Range Images - some practical experience from Guy Davies LRPS

When I saw Guy's image (see below) on the DI Group Folio I asked him to tell DIGIT a little more. Guy explains: I ought to point out that the picture you saw on the DIG Folio is the result of a spot of Photoshop work on top of the basic HDR image. I brought out the sunshine on the foreground reeds and grasses in Photoshop, although this was only possible because the HDR facility had produced a full histogram with detail in the foreground without burning out the highlights. To illustrate this, on the right is the basic HDR image and below are a couple of screen grabs showing the histograms of both images.

The HDR set started off as five shots taken over an exposure range of -2 to +2 stops from the metered value. I used the HDR facility in Photoshop CS2, accessed from Bridge, to build the 32-bit HDR image. In the course of this, a dialog box pops up to ask for the white point to be set. I moved the slider to the right to get what I thought looked like the right balance between light and shade and clicked OK. This gave me a 32-bit image, but there isn't really much you can



do with this, as Layers don't seem to be supported at 32-bit level. I therefore changed the image to 16-bit (Image>Mode>16-bit), and was offered several options on how to squeeze down the 32-bit range into a 16-bit range. I chose Compress Highlights as being the best conversion, but have since realised that one of the other options gives you a Curves facility to give much more flexibility. I am still learning and feel that I need to do more before I start to understand it all.





Andy Beel FRPS thought we might like to see his F Panel. A superb and subtle use of digital imaging using the latest kit and software no doubt. Delicate figure studies in toned monochrome. Congratulations Andy.



Perhaps. In fact my congratulations are slightly belated - Andy got the F in 1990! He dropped out of photography until digital came along a decade later. So, these are snaps of the original split toned selenium darkroom prints, cropped slightly tight. Andy is now back on the lecture circuit with all the usual talks and a digital monochrome masterclass

You can see more of Andy's work at: <http://kps.purefineart.co.uk/Gallery/Rooms/abeel/index.html>

Permajet's eco-flo bulk Ink system

The Epson Stylus Photo R2400 is a solidly built A3+ inkjet printer using Epson's excellent pigment inks. What if you want to do a lot of printing on it and don't like the cost of those rather small ink cartridges that it uses? Keith Cooper of Northlight Images looks at how the new eco-flo performs.

Generally I have been suspicious of add-on ink supply systems, having heard problems of leaks and poor build quality. We were lent an Epson R2400 and a new Eco-Flo kit by Permajet and for this review. It uses Permajet's K-chrome pigment inks. We also had a look at using it with PermaJet Fibre Base Gloss papers and the new version (V2) of the PrintFIX PRO software.

What's in the kit?

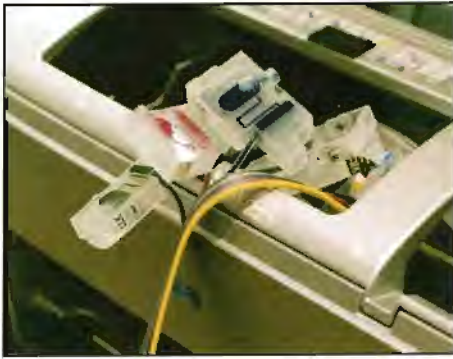
The kit comes with bottles of ink and all the parts to install the ink system on your R2400: an injector set with tubes attached replaces the cartridges and a set of chips fools the printer software. More details about the system are at: www.permajet.com. If you are buying a new R2400, install the original Epson cartridges first and satisfy yourself that the printer is working properly. It's not a good idea to return a faulty new printer if you have been messing around with third party add ons...

There is a comprehensive guide to installation - do read it first - which steps you through the installation process. Assembling the parts together is fairly straightforward and took me just under an hour,



including triple checking that the right bottles were connected to the right injectors.

The injectors replace the ink cartridges and have spaces in them to allow a smooth flow of ink into the heads. This is one area where the instructions could be a little clearer - I was not sure at what angle to hold the injectors when filling, and whether there should be any air left in. Ink is drawn into the injectors by a syringe with a small plastic adapter - all items are in



the kit, including some protective gloves.

Be careful when putting the stiff plastic pipes into the main ink bottles. They are a firm fit, and if slack may let air

into the lines later - which will mean you have to pull an injector and refill the appropriate ink line. The chips tell the printer how much ink is in the cartridges - these replacements automatically jump back to full when they get low. Check that everything is connected properly - I very nearly swapped over two injectors, which would have produced odd results, not to mention the need to flush quite a bit of ink through the heads to get things right again. After fitting, the tubing is held in place with a cheap-looking clamp attached to the top of the printer with Velcro.

After setting everything up, it was a simple matter of following the instructions for printing - there were no instructions for Macs but it just worked: a Mac thing! A few nozzle checks and printing of some of the supplied (single colour) purge images got perfectly good tests. At this point I waited until the next day for more testing, just to let things settle in. This is often a good idea when moving or doing any extensive cleaning work on inkjet printers.

Results

I printed the PDI test image and my own black and white test image. Both test images available for download at <http://www.northlight-images.co.uk>. Use a known good image when testing - not one of your own photos. Trying Epson PGPP in the printer, using an Epson PGPP profile, produced very passable results for the colour image. Since Permajet supply profiles for their papers I tried printing both images on Fibre Base Gloss (FBG) paper, then I tried making a profile with the new PrintFIX PRO profiling kit, and just to top it off I made a luminance only .icc profile to



try with the Epson driver's advanced black and white mode. The supplied profile (for Permajet K-Chrome inks) produced less than stellar colour results with the PermaJet FBG paper and was wholly unacceptable for black and white (unless you are a fan of magenta toned prints). The Epson advanced BW mode produced a fairly good black and white print (PGPP setting) which became rather good with a linearising profile. Best results came from using the PrintFIX PRO profile (made using the enhanced BW options). Not only was the black and white spot on (showing up a very slight Magenta tinge in the Epson

ABW mode prints under tungsten lighting) but the colour print had very good depth.

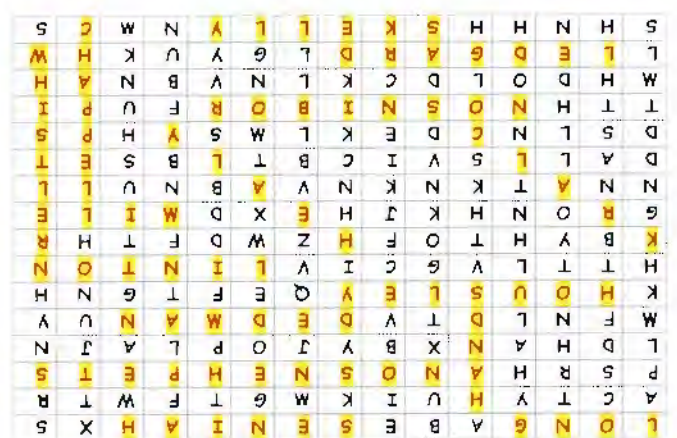
Conclusions

The kit was easy to assemble with nothing requiring any great mechanical skills. It's important to have the ink bottles at the same level as the printer - you don't want all that ink siphoning into the base of your printer. I've been critical of some third party ink systems in the past and in particular of the intermittent quality control that some have exhibited. I've only a few - minor - gripes about this system, which has now been in use for a couple of weeks without any problems. The retaining bar is the most unfinished looking part of the kit. Minor injector leaks occurred when first priming two of the 8 injectors but slight dampness around the area where the tube goes into the injector seems to have dried and they have not leaked at all since. At times the ink tubing rubs on part of the case. I'm not sure if this might take to cause any problems.

Costs

The kit with 125ml of each ink comes in at £299 including VAT. That's just under 10 normal cartridges worth of each ink used. So the question you have to ask yourself is: How much printing am I going to do? The costs of using this system are certainly a lot lower than using individual cartridges but remember that the inks have a limited lifetime and if you wouldn't use up 10 cartridges worth (per colour) in 2-3 years then it might not be worthwhile. I can see a usage/expense/running costs argument that would make such a system very useful.

The K-Chrome pigment inks are a very close match to the original Epson inks but for best results you will need custom profiles for your paper choices. The kit is supplied with either matte or photo black inks - you can change them over quite easily. The one supplied profile I tested was not good enough for my own needs, although Permajet are in the process of remaking many of the profiles on the supplied CD. So, in summary, fairly simple to set up and install with all you need to drastically lower your printer running costs. Very worthwhile if you already have a 2400 and are finding the cost of the inks excessive.



WordSearch Answers

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**KEY CONTACTS
DIGITAL IMAGING GROUP**

Chair: Clive Haynes FRPS
01905 356405
chairman@digit.org.uk

Secretary: Glenys Taylor ARPS
01823 282516 or 01823 323986
secretary@digit.org.uk

Treasurer: Peter Roberts ARPS
01926 420105
treasurer@digit.org.uk

Webmaster: Bill Henley LRPS
01453 825068
weh@digit.org.uk

Publicity and Website Updates:
John Long ARPS
01179 672231
webquery@digit.org.uk

Exhibitions: Alex Dufty LRPS
01454 778485
exhibition@digit.org.uk

Dr Barry Senior FRPS
01425 471489
barry@littlepics.freereserve.co.uk

Graham Whistler FRPS
01329 847944
graham@gwpmultimedia.com

Maureen Albright ARPS
01672 540754
maureen@maureenalbright.com

Tony Healy ARPS
+61 (0) 2 9958 1570
tonyhealy@optusnet.com.au

Vice-Chair and Editor DIGIT
Jim Buckley LRPS
01932 843893
editor@digit.org.uk

DIGITAL REGIONAL ORGANISERS

Members wishing to attend regional digital imaging meetings should contact the organisers listed below for full details

Eiger (East Anglia)
Joy Hancock FRPS
joyandmike@woodview24.freereserve.co.uk

Scotland
Alistair Knox LRPS
akphoto@btinternet.com

Midlands
Clive Haynes FRPS
www.midig.org
clive@crhfoto.co.uk

East Midlands
Bob Rowe ARPS
www.rpsdigital-em.org.uk
bob.rowe10@ntlworld.com

Central Southern
Moira Taylor LRPS
www.csdigital.co.uk
no1greenside@onetel.com

Western
Glenys Taylor ARPS
glenys.taylor@tiscali.co.uk

Wessex
Maureen Albright ARPS
www.wessex-dig.org.uk
maureen@maureenalbright.com

Southern
Dr Barry Senior FRPS
barry@littlepics.freereserve.co.uk

Yorkshire
Robert Croft LRPS
<http://yorkshire-dig.mysite.orange.co.uk/>
robert@robertcroftwanadoo.co.uk

South Wales
Maureen Albright ARPS
www.southwales-dig.rps.org
maureen@maureenalbright.com

Cumbria
Harry Bosworth
harrybos@aol.com

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Jim Buckley LRPS Editor

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