Digital c't Photography

Raw
Retouching
End-to-End Workflows
in Lightroom, Capture One, ACDSee

Fast Wide-Angles
10 Prime Lenses Tested

Composing
with Color
Professional Tips and Tricks

Discovering Landscapes with a 50mm Lens

Telescopes as Budget Telephotos

Leica M Monochrom

www.ct-digiphoto.com

Eagle-Eye Sharpness

Megapixel Monster Canon EOS 5Ds vs. Nikon D810 and Sony a7R
Which Lenses Really Can Resolve 50 Megapixels?

Dear Reader,

You are looking at the 22nd and, unfortunately, last issue of *c't Digital Photography*.

Since the first issue in the fall of 2010, we have built up an exclusive and discerning readership, and many of you have become loyal subscribers. We have enjoyed great feedback on our carefully researched technical articles, in-depth tests and inspirational workshops from top names like George Lepp and Roberto Valenzuela. Thanks to everyone who took the trouble to tell us what we did right and what we could have done better.

However, in spite of all the positive news, our readership hasn't grown fast enough to give *c't Digital Photography* a secure economic footing, and we have been forced to call it a day.

Now that you have to live without us, we recommend that you head over to our sister publisher, Rocky Nook, for all your photographic needs. Visit rockynook.com for an unparalleled range of books and eBooks on virtually every aspect of photography, written by some of the biggest names on today's scene.

We are determined to go out on a high note, so this issue takes a final critical look at the wonderful and sometimes absurd world of digital photography, with our cover story addressing the crucial question "Who needs a 50-megapixel sensor?" But the sheer number of megapixels is not the point – much more important is whether the lens can actually resolve a scene sufficiently well to utilize all the photosites available to it. Most lens geometries simply aren't designed to cope with that kind of pixel density.

We were, of course, skeptical about Canon's 'official' list of recommended lenses, so we decided to run our own tests to see which models are up to the EOS 5Ds challenge. However, even if you find a lens that works in theory, in practice each pixel is so small that it is virtually impossible to capture really sharp images handheld, and a camera that you can't use without a tripod isn't exactly practical.

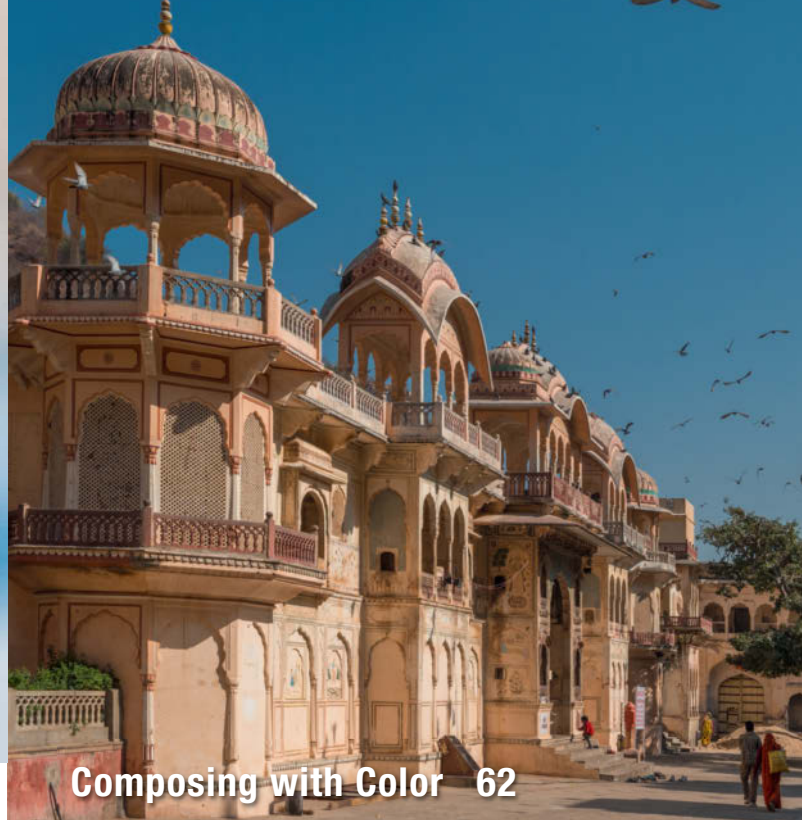A big 'thank you' goes to Canon for building the 5Ds and showing us where the megapixel madness leads.

Have fun reading and keep shooting!

Your *c't Digital Photography* Team

Canon EOS 5Ds R   20

Composing with Color   62

Portfolio

Henrik Spohler conjures up a technological world in which humans no longer belong.

Artist Portrait

Newcomer Michal Zahornacky gives commonplace scenes a new edge with his simple but haunting style.

Canon EOS 5Ds R

Canon's megapixel monster promises medium-format resolution in a full-frame body. We compare it with the competition and check out which lenses have what it takes to utilize all those pixels.

Leica M Monochrom

$7,500 for a camera that can only shoot in black and white? We put the latest monochrome Leica through its paces and try to justify the price.

High-end Car Shoot

René Staud and his team produce ultra-high-end image videos and stills for clients around the world. This article goes behind the scenes in the Namibian desert on a shoot for Mercedes-Benz.

Wide-angle Prime Lenses

We take a look at the fascinating world of wide-angle photography and compare high-end brand-name glass with the third-party competition.

Composing with Color

Photographic artist Pavel Kaplun takes us on a journey to India and lets us in on the secrets of how to use color to turn everyday scenes into magical moments.

Raw Retouching 96

50mm Landscapes 122

Telescope vs. Telephoto

Telescopes are a great value alternative to ultra-long telephoto lenses. We test some popular models and explain how they work, both on and off the camera.

Raw Retouching

Today's raw converters promise 'all-in-one' conversion and editing features. We test some of the most popular commercial and freeware packages and check out whether they really are one-stop solutions

Eagle-eye Cover Shoot

We go behind the scenes on this issue's cover shoot and show you how we captured our fantastic cover image and other shots of large birds of prey.

Landscapes Through a 50mm Lens

Jana Maenz explains how limiting her gear boosted her creativity.

Converting Digitized Negatives

We look at how to use raw converters, dedicated plug-ins and scanner software to get great colors from negatives copied using a DSLR.

About Us

Free Downloads

Full Version Software

Retouch Pilot removes scratches, dust particles and other blemishes and restores photos and scans in just a few clicks.

ANALOG projects enables you to transform snaps into photographs with an authentic vintage analog look.

Videos

• Unconventional Light #1: Softbox Workshop
• Unconventional Light #2: Strobe Workshop
• Fashion Photography with Claire Rosen
• Interview with Photo Artist Jamel Shabazz

Visit *www.ct-digiphoto.com/downloads222016* to download the content listed above for free

Free Downloads

Visit www.ct-digiphoto.com/downloads222016 for free access to full versions of *Retouch Pilot* and *ANALOG projects* as well as a range of exciting videos and video tutorials.

Retouch Pilot 3.6.3

Full version software: *Retouch Pilot* removes scratches, dust particles and other blemishes and restores photos and scans in just a few clicks.

It is often the little spots and blemishes that spoil a photo, and our exclusive full version of *Retouch Pilot* is all you need to restore your images with just a few simple clicks. The program's user-friendly interface offers scratch removal, smart selective healing and auto heal tools. The digital cover stick enables you to retouch skin blemishes and the 'elastic' tool works like the Adobe Liquify tool, enabling you to simply alter shapes and proportions. Alongside its retouching tools, *Retouch Pilot* also offers brightness, contrast, noise reduction and crop adjustments.

You can download a pre-registered version 3.6.3 from www.ct-digiphoto.com/downloads222016

and receive a 50% discount on a purchase of the latest version at www.colorpilot.com/retouch_upgr.html. This offers is valid until March 31st 2016.   (tho)

Creating Film Looks with ANALOG projects

Full version software: The filters included with *ANALOG projects* enable you to transform digital snaps into photographs with an authentic vintage analog look.

This easy-to-use software supports JPEG and raw image files and a wide range of presets make it simple to apply looks such as wet-plate, roll film and 'camera obscura' using just a single click. Expert mode includes tools for adjusting the degree of grain, vignette shapes and selective brightness. You can also remove noise, dust, blur, unwanted blemishes and lens spots. The program's 35 post-processing effects include film frames, various lighting styles, bokeh and blur. Individual effects can be shown or hidden as necessary to help you find the right combination of adjustments. For more details, visit www.projects-software.com.

c't Digital Photography readers have access to a full version of *ANALOG projects 1.11.02151* at www.ct-digiphoto.com/downloads222016.

All you have to do is follow the two-stage registration procedure included in the software installer. This offer is valid until March 31st 2016.   (tho)

Unconventional Light

Video tutorial: Pro photographer Bert Stephani introduces some unusual studio lighting techniques.

Shooting in a studio environment is a great option when it's dark outside or when the weather doesn't play ball. You can control all of your shooting parameters while experimenting and developing your own creative ideas.

In this video, Pro Photographer Bert Stephani introduces some concepts that will help you hone your studio technique. Stephani uses a softbox to provide a soft, flattering main light and explains the differences altered parameters make to the results in easy-to-understand steps. He takes his softbox apart 'layer by layer' to show you how to change its effect and ends up asking whether perhaps a flash would do instead. He puts theory

to the test by demonstrating and discussing the various looks you can produce and the types of portrait they are good for.   (sea)

Image Processing Tools

Windows

ANALOG projects premium
    1.11.02151 **Full Version**
GIMP
GIMP Portable
GREYCs Magic Image Converter
Hugin
Inkscape
Inkscape Portable
RawTherapee
Retouch Pilot 3.6.3 **Full Version**
UFRaw

Mac OS

ANALOG projects premium
    1.11.02151 **Full Version**
GIMP
GIMP Portable
GREYCs Magic Image Converter
Hugin
Inkscape
Raw Photo Processor
RawTherapee
UFRaw

Linux

GIMP
GIMP Portable
GREYCs Magic Image Converter
Hugin
Inkscape
RawTherapee
UFRaw

Photo Tools

Windows

Enblend/Enfuse
EnfuseGUI
ExifTool
GTKRawGallery
IrfanView
IrfanView PlugIns
IrfanView Portable

Mac OS

Enblend/Enfuse
EnfuseGUI
ExifTool
MacPorts

Linux

Enblend/Enfuse
ExifTool
GTKRawGallery

Sample Images

Camera Test Sample Photos
Lens Test Sample Images
Telescope Photography Sample Images

Videos

Claire Rosen:
    Fashion and Fairytales
Jamel Shabazz:
    Visual Medicine
Unconventional Light, Part 1:
    Softbox Workshop
    with Bert Stephani
Unconventional Light, Part 2:
    Strobe Workshop
    with Bert Stephani
Flicker Produced by an Acuter
90/900 ED Telescope

www.ct-digiphoto.com/downloads222016

Readers' Letters

RAW Converter for Mac

In the latest issue I saw that you have an article planned for the next issue on open source RAW converters. Not sure if it is too late to mention, or if you would be interested, as it is something of a niche, but many have discovered that RPP is probably the best RAW converter for processing files from the unique Super CCD sensor in the Fuji S5 line of cameras. You should try that, and I mean really try that. I also own the latest versions of Lightroom, Photoshop and DxO, and none of them can match the results achievable from this sensor with RPP in terms of DR or color fidelity. I also use a Nikon D800E, Leica M-E and a Sony RX-1 for

digital duties, and those files are more easily processed in something like ACR, but none can equal the results I can obtain from the S5 Pro/RPP combo. I don't use RPP very often for the other cameras. Horses for courses. It's an interesting niche, and many still love the 'obsolete' Fuji. In my experience, shooting at base ISO up to ISO 400 for computer display or 8x10 (or smaller) prints, the Super CCD sensor has never been equaled, and RPP has made this clear. Your magazine is the best there is, I should not neglect to say that as well.

Larry Cloetta

Thanks for your feedback. We tested RPP (see issue #20, page 74), but not with the focus on the Fuji S5 as this model was discontinued a couple of years ago.

Linux Performance

I read your article on open source raw converters and felt a need to comment on Linux performance as both a photographer and OS internals expert. Almost all of the open source programs you tested include internal code to test for advanced parameters that allow automatic use of dedicated processors, numeric processing extension and memory. Since these parameters are configured beyond a normal desktop configuration, they require knowledge of how to tune these programs. When properly tuned, Linux can perform image processing over Windows in excess of 2:1. In the future you may want to state the Linux distribution and version, and whether special features are turned on, so expert readers can determine the accuracy of your findings in their Linux environments.

Oliver Bailey

Test Image with Zeiss Otus

I read with interest your review of the Zeiss Otus 85mm f1.4 lens in c't Digital Photography No. 19. It certainly seems to be a fine lens. However I did notice in the test images on the DVD shot at f1.4 that the resolution of the test targets was noticeably softer in the bottom corners of the test photo than in the top corners. There was even some residual softness in the bottom left hand corner at f4. Was this was due to some decentering of the elements in the sample tested or perhaps some accidental misalignment of the test charts?

Graham Wootton

Thanks for your comments. Unfortunately, we cannot reproduce the test scenario after the event, making it impossible to find out what, if anything, went wrong. It is certainly possible that our processes are not always 100 per cent

error-free, especially when it comes to testing high-resolution sensors and lenses with shallow depth of field. However, we usually notice erroneous results during our tests and repeat them on the spot if necessary. At this stage, we can't completely exclude the possibility of camera or lens defects either.

Tell us what you think:

We are always happy to receive your comments and suggestions in a letter, an e-mail (editor@ct-digiphoto.com) or at www.facebook.com/ct-digiphoto. We reserve the right to abbreviate your input for publication. Our comments are printed in italics.

Sony Zoom Not Tested

As a subscriber to your magazine for the past few years I was looking forward to your comparison test of 70-200 lenses (or their APS-C equivalents). When I received issue #21 I was quite disappointed to see that it did not include Sony's 70-200mm f/2.8 A-mount lens, also usable on its FE/E-mount mirrorless cameras via adapter. You tested both the f/2.8 and f/4 variants of the Canon and Nikon 70-200mm offerings but neglected to include the Sony 70-200mm f/2.8 in your test. Why?

I realize that nobody is perfect, and that you generally have limited space in your magazine. However, you also spend quite a significant number of pages on articles that likely have less overall interest than some of your more comprehensive (but not exhaustive) equipment comparisons. Leaving out key products from important manufacturers does not do your readers a good service, many of whom are not Canon or Nikon shooters (though obviously most

are). Your equipment reviews generally provide more information than any U.S. based magazine of which I am aware, and you often review equipment that U.S. magazines tend to ignore (such as your flash comparison). You also have more extensive articles on subjects that I suspect are of widespread interest but generally go ignored in U.S. publications, such as making digital copies of slides. Your comparisons and reviews of RAW converters have been quite illuminating. I say all this to let you know that I do appreciate your magazine. I just wish you did not ignore certain types of equipment in your group comparisons and would be a bit more careful and accurate in your reporting.

Mark Van Bergh

Thanks very much for your comprehensive feedback, and we are sorry that your specific interests aren't always represented. We plan our articles and tests very carefully but can't always include all the products we would like to discuss – in this case the Sony bayonet lost out.

Portfolio

Henrik Spohler

Vast monocultures under plastic, colorless server rooms, deserted production lines that look like something out of a science fiction film: Henrik Spohler's images portray an ultra-rationalized world that humans appear to have forsaken.

The Bible says 'Subdue the earth', and that is exactly what mankind has done since the beginning of time. In fact, we have done it so enthusiastically that we now feel we don't belong: we have made ourselves strangers in places like industrial production lines, where it is difficult to know what is actually being produced; in agriculture, where vast monocultures grow under plastic; and server rooms that give no indication whatsoever of what happens in them.

Photographer Henrik Spohler likes to confront the viewers of his images with a world that is empty of people. He has photographed four sequences that treat the concept from different points of view and that he sees as a kind of scientific experiment. "A fast-moving, commoditized world like the one we live in was unimaginable just 30 years ago," he says. "Take Amazon, for example: with a few clicks, I can order something from another country today and it will be delivered to me tomorrow. I ended up asking myself how I could develop a way of showing this process visually."

His first response to that question was his *0/1 Dataflow* series, photographed at places like the DE-CIX Internet exchange in Frankfurt. "Industry used to mold, rivet and weld but here, the product is information. It is immaterial; we percieve it only through the slight noise it makes, but we can't see it." Spohler is professor of Communication Design at the University of Applied Sciences in Berlin and his aim was "to photograph this absurdity using high-resolution photography as a visual allegory of cyberspace."

Global Soul followed in 2008. In this series, Spohler creates a kind of imaginary metafactory in which it appears not to matter what is being produced. "You get the feeling that this metal uterus can actually produce anything and everything," is how Spohler describes this world. It is not only humans who seem out of place here – it is virtually impossible to identify what product is being made.

Are his images pointing the finger? "No, I'm not really political." But he does believe that photography is entitled to ask questions. "I'm not trying to change the world with my photos, but maybe I can create awareness by asking questions and giving people a nudge."

He continued this approach in his third series, *The Third Day*, in which he looks into the conditions under which food is produced and the landscapes our society creates in doing so. "What I'm trying to do in *Third Day* is to exaggerate the fictional as far as possible, giving the impression of an entire universe that is self-contained, but with its origin in plants rather than technology."

He uses similar photographic techniques for all his work: "I try to tell a fictional story by way of artistic documentary photography." As far as a visual language or style is concerned, Spohler does not see himself following the traditions established by the Becher school. "That would be to negate what that style stood for, and there's no use compartmentalizing the things I am trying to convey in that way."

Having covered information and production, Spohler's latest project, *In Between*, looks at worldwide logistics, long the backbone of globalization. "What interests me about harbors, freight airports and railway yards is what these places really look like, since every tiny aspect of them reflects their economic function." In this series, Spohler, who learned his craft on an analog view camera, uses slight overexposure as a clever

stylistic technique. "Artistically speaking, it's easier to get a futuristic look by adding a degree of lightness to an image," he explains. "You'll find it difficult to spot anything in my photographs that enables you to date them," he says, "because that perpetually future-focused way of acting and thinking is part of their essence." (keh)

The Third Day
**Plant for developing genetically
modified varieties of rice, Belgium**

The Third Day
**Industrial algae
production, Germany**

For more on Henrik Spohler visit
www.henrikspohler.de

0/1 Dataflow
#1

0/1 Dataflow
#16