

Free DVD  
inside

Image Sharpening • Lens Error Correction • Photo Apps • DSLR Video

# ct Digital Photography

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The in-depth quarterly for the photo enthusiast

## Image Editing

### iPhone & Android Photo Apps

Mobile fun and photo tools

### Bit Depth Explained

Are 16 or 32 bits better than 8?

## Free DVD

### Photoshop Plug-ins

### 3D Photography Video Tutorials

### Full and Special Version Software

## Creative Corner

### DSLR Video

From storyboard to finished film

Editing software test

Image stabilizer test

### 3D Photography Special

Shooting techniques and image processing

Cameras, lenses and displays

## Camera Test

### DSLR vs. Mirrorless

Panasonic, Pentax, Olympus, Samsung

## Better Photos

### How to Correct Lens Errors

Distortion and perspective correction software test

# Sharpen Your Image!

Preventing Image Softness, Sharpening Tools Review

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The in-depth quarterly for the photo enthusiast

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Next to the  
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## Welcome to Issue 5 of *c't Digital Photography*!

This issue sees us enter our second year of publication, and we would like to thank our readers for their encouragement and positive feedback in recent months. Support for the magazine already extends beyond our readership to a number of well-known online forums, including [nikonians.org](http://nikonians.org), who are offering readers of this issue an exclusive 50 percent discount on a year's Gold Membership (see page 9).

If you would like to meet us in person, you can visit our booth (901A) at the PhotoPlus International Conference in New York ([www.photoplusexpo.com](http://www.photoplusexpo.com)) in October, and it is now easier than ever to tell us what you like (or what you don't like) about the magazine online at [www.facebook.com/ct-digiphoto](http://www.facebook.com/ct-digiphoto), [twitter.com/ctDigiPhoto](http://twitter.com/ctDigiPhoto) or in a mail to me at [editor@ct-digiphoto.com](mailto:editor@ct-digiphoto.com). I promise to answer all of your queries!

Have fun with this issue's great mix of articles, workshops and in-depth know-how. This time around, you can learn how to correct lens errors and how to get the best possible sharpness out of your images. And if two dimensions or non-moving images aren't enough, we show you how to take and process 3D images as well as how to shoot DSLR video like the pros. For the smartphone users among you, we also give you the low-down on which apps are available for the iPhone, the iPad and Android, and tell you which made it onto our list of personal favorites.

*Jürgen Rink*

Juergen Rink

P.S. Due to the many requests we have received, we are pleased to announce that subscriptions to *c't Digital Photography* are now available worldwide. See the card on page 35 for details or visit [www.ct-digiphoto.com/subs](http://www.ct-digiphoto.com/subs)



## How to Correct Lens Errors 18



## iPhone & Android Photo Apps 73

### Portfolio

Maak Roberts' advertising and editorial photos give reality a bizarre twist.

10 Maak Roberts Portfolio

### Correcting Lens Errors

Most lenses produce visible distortion of one sort or another. We explain the causes of distortion and how to minimize its effects while shooting, or later using a computer.

- 18 Distortion and Perspective Errors
- 26 Correcting Lens Errors
- 27 How to Create Lens Profiles
- 29 Test Criteria
- 30 Test: Dedicated Tools
- 35 Test: RAW Converters
- 39 Conclusions

### 3D Photography Special

This series of articles takes an in-depth look at how to shoot and process 3D images, as well as some of the 3D hardware currently on offer. We also provide an overview of the 3D display market.

- 40 3D Shooting and Processing
- 62 3D Cameras and Lenses
- 70 3D Monitors and Projectors

### iPhone & Android Photo Apps

Photo apps come in a huge range of shapes and sizes and transform Smartphones into versatile image creation machines.

73 Photo Apps for Android and iPhone

### Sharpen Your Image!

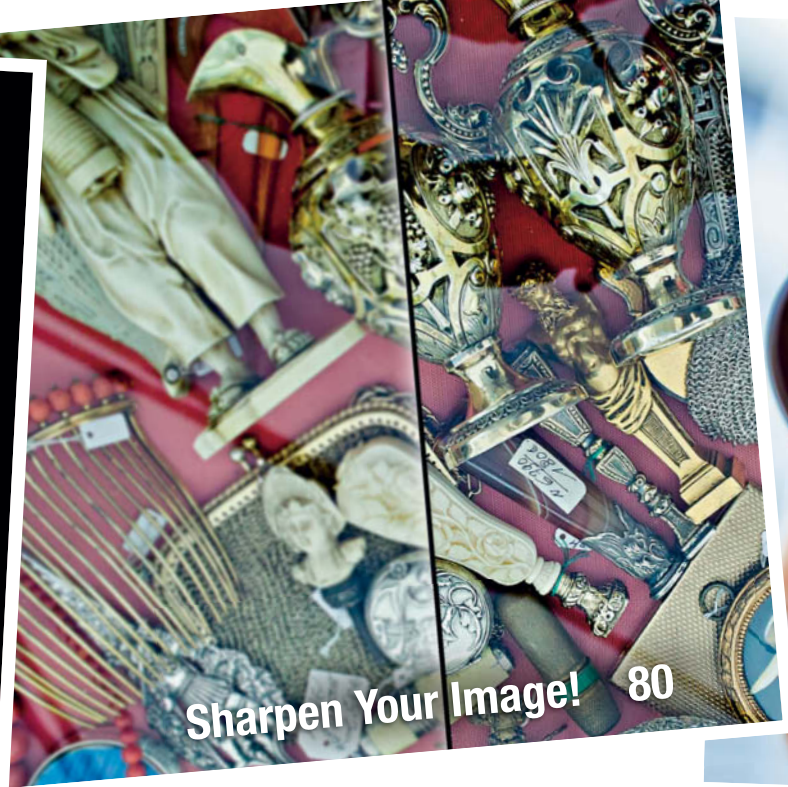
Sharpening can produce just as many artifacts as it eliminates. This article explains how to avoid shooting unsharp photos and how to get maximum sharpness out of your images using software tools.

- 80 Deconvolution
- 83 In-camera Sharpening
- 84 Unsharp Masking
- 86 Sharpening using RAW Converters
- 90 Post-Processing

### Shoot Video Like a Pro

Many of today's DSLRs have built-in high-end video functionality. Camera operator Kumaran Herold explains how to use this capability to shoot professional-looking video, taking us step by step from the concept to the finished clip. Plus: editing software and image stabilizers.

- 92 Planning and Shooting DSLR Video
- 104 Video Editing Software Test
- 112 Image Stabilizer Test



**Sharpen Your Image!** 80



**Camera Test:  
DSLR vs. Mirrorless** 124

## Bit Depth Explained

How much color depth do you really need? Are 32 bits per channel really better than 16? This article provides all the answers as well as some useful insights into the way computers handle color.

118 JPEG Color Depth

## Camera Test: DSLR vs. Mirrorless

To see how well today's mirrorless cameras shape up against the DSLR competition, this issue's camera test lines up the Pentax K-5 and K-r models with the Olympus E-5 and pits them against the Panasonic Lumix DMC-GH2, the Olympus PEN E-PL2 and the Samsung NX100.

124 Camera Test  
135 Test Results

## About Us

3 Editorial  
6 Readers' Letters  
7 PhotoPlus Conference  
138 Coming Up in Issue 6

## Free DVD

Highlights of this issue's free DVD include sample images from the many of the articles in the magazine, a special membership offer at nikonians.org and a wealth of free software. This includes a five-part 3D photography tutorial, a 3D photo/video playback application and an interview with our very own editor-in-chief, Juergen Rink.

8 DVD Highlights  
9 DVD Contents



# Readers' Letters

## Adapters for Canon A1 lenses

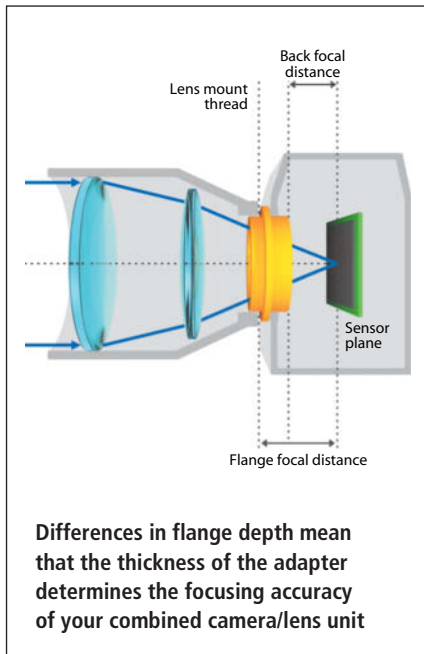
I just discovered your marvelous magazine (issue 4). I am an amateur photographer, and I think it is just great.

I have a question regarding issue 4, Manual lens adapters: I have an old Canon A1 with about seven lenses. Can you recommend a source of adapters to use those lenses in a Canon Rebel EOS DSLR?

Steve B.

*Canon A1 lenses are tricky to use with adapters because of the dimensions of the FD lens mount, which has a flange focal distance of about 42 mm, while that of the EOS mount measures 44 mm.*

*What this means is that you can only use FD lenses with an adapter that contains additional optical elements, and these are difficult to find and complicated to use. Generally, if you want to use legacy lenses with adapters, we recommend that you use a camera body with a shallower flange focal distance than the body the lens was originally designed for.*



## Excellent balance of technical and non-technical articles

You are publishing the best magazine on digital photography without question ... Each magazine on photography has their own purpose and following. Too many are copies of one another, but your magazine has an excellent balance of technical and non-technical articles that rises far above the rest. I sadly missed edition issue 2, but have thoroughly enjoyed the other editions.

I very much disagree with someone who thought the article in the first issue on comparing lenses was too long. That was an absolutely ridiculous comment. It was a thorough investigation of the subject that required every page that few magazines would have devoted to the subject ... Keep up the good work. I enjoy every page of your magazine and look forward to receiving the next issue. I plan to subscribe and be a devoted reader.

Thomas G.

## ... and what people are saying about us on the Web:

I've recently been made aware of a new photography magazine that's hit the North American market. Jack Howard, author of Practical HDRI and Practical HDRI 2nd Ed let me know about it a few weeks ago. The mag is c't Digital Photography.

In general, I've thought for years that European photo publications were superior to what we get here in N.A. Much of what we have here is more sizzle than steak. There are a few exceptions but I'm speaking in generalities. Based on the copy I have, c't Digital Photography makes a good impression too. The first thing that struck me was the physical size. European mags are larger than in N.A. and that's really due to the different paper sizes. The next thing that struck me was the paper quality. Every page is heavyweight, glossy stock. Definitely better quality than what we get in N.A.

Moving beyond the physical aspects, the content is outstanding. A recent issue of Out-

door Photographer had an article on geotagging. The article was two pages of which barely one page was text. By comparison, the issue of c't I received also has an article on geotagging. The c't piece is 14 pages and goes into a great deal of depth about the process and the available tools. There's a 14 page article on studio lighting complete with numerous examples and lighting setup diagrams. An 18 page article on travel photography gives incredible insight into this genre of photography. A 17 page article on filters is more a small book than an article. All of the articles are well written, comprehensive studies of the subjects.

While it is more expensive than 'local' mags ... the quality of the content should make it worth the additional cost because the content is simply outstanding. (<http://rf-photography.ca/photo-mag-market/>)

RF-Photography

If you want to learn about photography itself and how to make better pictures, Bruce Barnbaum's *The Art of Photography* is the best book ever written. For well under \$30, I consider *The Art of Photography* as required reading if you're interested enough to read this website and have a genuine desire to take great pictures, as opposed to just buying up all the gear you can.



If you want to read all about lenses, flash technique, panorama stitching, Linux photo tools, macro, graphics tablets, Lightroom, and even get a free DVD crammed with eBooks on macro shooting, Photoshop workshop videos, plug-ins and more, c't Digital Photography Magazine is for you. ([www.ken-rockwell.com/tech/00-new-today.htm](http://www.ken-rockwell.com/tech/00-new-today.htm))

Ken Rockwell's blog

## Tell us what you think:

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

# PDN PhotoPlus Expo

October 2011 sees the 29th PDN PhotoPlus Expo open its doors to the *Who's Who?* of the photo and imaging scene. For three days, the event gives you exclusive access to emerging trends, technology, and talent, as well as providing a range of informative seminars and a forum for meeting and exchanging ideas.

The annual New York event has taken place every year since 1983, and uses the unique space frame structure of the Jacob K. Javits Conference Center to provide a meeting place for imaging professionals from all areas of the trade. The PDN PhotoPlus International Conference + Expo 2011 is one of the most important photo trade fairs in the USA and attracts many national and international exhibitors and visitors. One of the reasons for the fair's success is its wide range of themes gathered under one roof. Exhibitors include all major camera manufacturers, equipment suppliers, printer manufacturers, and many other companies associated with photography and imaging.

The name says it all and, along with the product booths and shows, this year's International Conference + Expo offers more than a 100 specialist seminars given by well-known photographers and other stars of the scene. Subjects such as "Location

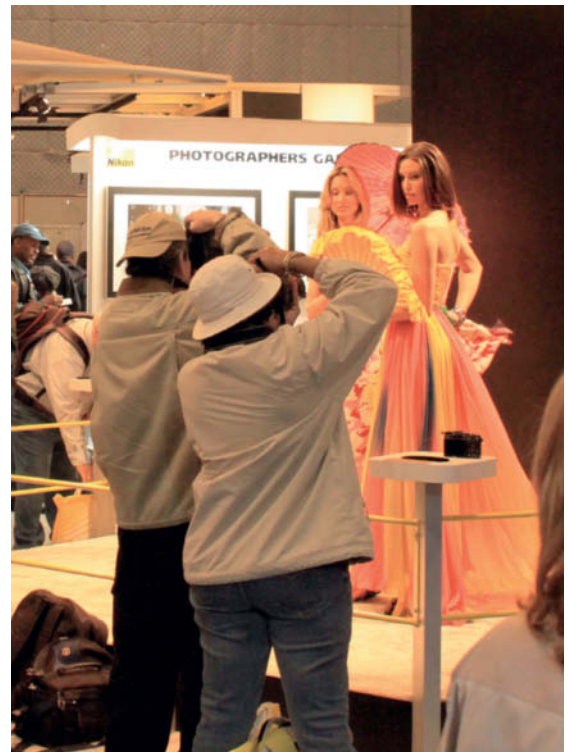
Flash Lighting" or "Experiential Wedding Photography" can be found alongside software-based themes like "Digital Workflow Live with Adobe Lightroom 3" or business topics like "Delivering What You Promise on Global Assignments".

The major camera manufacturers offer free, often educational shows during the event and are complemented by booths run by major lens and accessory suppliers such as Carl Zeiss, Tamron, Sigma, Manfrotto and Lowepro.

*c't Digital Photography* is, of course, part of this major event, and you can find us together with our partner *Rocky Nook Publishing* at booth 901A. We're looking forward to seeing you there, and don't forget to bring a tote bag!

#### Additional information:

[www.photoplusexpo.com](http://www.photoplusexpo.com),  
[www.javitscenter.com](http://www.javitscenter.com)



**pdn**  **PHOTOPLUS**  
INTERNATIONAL CONFERENCE + EXPO

## Dates & Times

### Expo

Thursday, Oct 27:	10:00am - 5:00pm
Friday, Oct 28:	10:00am - 5:00pm
Saturday, Oct 29:	10:00am - 4:00pm

### Seminars

Thursday, Oct 27:	8:45am - 7:45pm
Friday, Oct 28:	8:45am - 7:45pm
Saturday, Oct 29:	8:45am - 5:45pm

# DVD Highlights

Highlights of this issue's free DVD include sample images from the articles in the magazine, a special membership offer at [nikonians.org](http://nikonians.org) and a wealth of free software. This includes a five-part 3D photography tutorial, a 3D photo/video playback application and an interview with our very own editor-in-chief.



## 3D Photography Video Tutorials

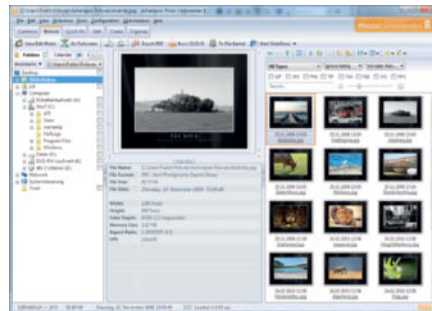
c't Digital Photography 3D special: Andreas Fischer uses clear examples to explain the basics of shooting and viewing 3D photos.

This five-part series of tutorials is normally only available to subscribers to FotoTV ([www.fototv.com](http://www.fototv.com)) and explains how to get started with 3D photography. Andreas Fischer is an experienced 3D photographer and explains everything you need to know to start taking your own "stereoscopic" images. He uses straightforward examples to explain various shooting techniques.

You don't need a special camera to take 3D photos, and you can create 3D images of stationary subjects by using a conventional camera to take two slightly offset source images. Fischer introduces various ways of producing stereoscopic photos and explains what to watch out for to be sure of getting effective three-dimensional results.

The best-known way to capture 3D snapshots is to use two synchronized cameras attached to a special bracket, and we even show you how to build your own. Firing both shutters simultaneously is a great way to capture fast-moving subjects in 3D.

How you process your 3D photos will depend on how you want to view them: some 3D images only appear three-dimensional if you view them using special glasses, while others only require you to train your eyes to see the hidden third dimension. (anm)



## Photo Commander 8.5 (full version)

This package gives you the functionality you need to efficiently view, manage, optimize and export your digital images.

If you take a lot of digital photos, you will know how difficult it can be to keep track of your work and find just the image you are looking for. This is where Ashampoo Photo Commander steps in, giving you a wealth of display modes and other really useful features.

The program window gives you a clear overview of your stored data alongside a preview window, metadata display and a thumbnail view that updates quickly and smoothly when you switch folders. As well as all popular image formats, the program also supports a range of video formats that play back in real time in the preview window when selected. Pressing "Enter" switches to a maximized preview window and Alt+Enter switches the program to full-screen mode. There are also tools for burning video projects to CD or DVD, creating Web galleries, exporting to PDF and much more besides.

Version 8.5 of the program is included on our free DVD. Once you have registered online, you will receive an activation code that allows you unlimited use of the software. Plus, if you update to the even more powerful version 9 directly from the program's interface, you will receive a 60 percent discount on the program's normal retail price. (jub)



## Stereoscopic Player (c't edition)

c't Digital Photography special version software: This player displays a range of 3D video formats, including DVD.

The article on page 40 explains various types of 3D images in detail and the pitfalls to watch out for while shooting. But that's not all – once you have captured them, 3D Photos and videos require their own special methods of display. 3D Videos usually have to be written to a specific file format, making it necessary to create multiple files for display in different formats. Stereoscopic Player works around this problem by converting files in real time during playback. This means that you only require a single video file for viewing 3D films with red/green 3D glasses, active shutter glasses or using the glasses-free cross-eye technique.

The c't Digital Photography special version 1.7.2 of Stereoscopic Player is included on our Free DVD and gives you unlimited anaglyph video viewing functionality for videos stored on hard disk. If you install a DirectShow decoder (available separately), the player can also play back all popular 3D or 2D formats from DVD. Additionally, the program offers real time Web stream viewing during download and access to cameras and other capture devices. The 3D photo and slideshow playback feature is a great bonus for photographers and a command-line interpreter allows extensive automation and customization. (jub)





## Nikonians Gold Membership

**Special Offer:** The voucher included with this issue gives you a 50 percent discount on a year's Gold Membership at [nikonians.org](http://nikonians.org), the premier online photo community.

Nikonians ([www.nikonians.org](http://www.nikonians.org)) is a manufacturer-independent online community founded by Nikon-loving photographers, and which is open to anyone interested in any aspect of digital or analog photography. [nikonians.org](http://nikonians.org) is said to be the largest Nikon user community in the world and invests all of its income in maintaining and expanding its online activities. The site was founded 11 years ago and now has more than 350,000 registered members. Its stated aim is "to provide a friendly, creative and inspiring atmosphere for ambitious photographers of all skill levels."

Forum access, newsletters, podcasts and the site's online eZine are free, while all of the other Nikonians features and benefits require annual membership, either at Silver (US\$25), Gold (US\$75) or Platinum (US\$200) levels. Gold membership costs just US\$37.50 if you register before February 29th 2012 using the voucher code `ctniken2011`. Further information and links to the [nikonians.org](http://nikonians.org) site are included on our free DVD.

Gold members are allowed to upload images to forums, have access to fine art galleries and forums, can send mail to other members, are allowed to edit the Nikonians Wiki and receive invitations to participate in photo tours, workshops and contests. (jr)



### 3D Tools

3D Processing Sample Images  
 AnaBuilder 2.46.2  
 c't 3D Presentation (executable)  
 c't 3D Presentation (WMV)  
 c't AviSynth Script for converting 2D videos to 3D  
 Free 3D Photo Maker 2.0.11  
 StereoMasks 1.2.0.1  
 Stereoscopic Player (c't edition 1.7.2)

### Image Processing Tools

Artweaver Free 1.22  
 GIMP 2.6.11  
 GIMP portable 2.6.11  
 GREYC's Magic Image Converter (G'MIC) 1.4.9.5  
 Image Analyzer 1.33  
 ImageJ 1.44  
 ImageMagick 6.7.0-6  
 ImageMagick portable 6.7.0  
 JDraw 1.1.5  
 Mosaizer Pro 8.2.89  
 Paint.NET 3.5.8  
 Pencil 0.4.4beta  
 PSPI 1.0.7  
 RegiStax 6.1.0.0

### Photo Tools

CombineZP 1.0  
 EnfuseGUI 2.1  
 ExifTool 8.60  
 FastStone Image Viewer 4.6  
 FastStone Image Viewer portable 4.6  
 GeoSetter 3.4.16  
 Hugin 2011.0.1  
 Insight3D 0.3.2  
 IrfanView 4.30  
 IrfanView PlugIns 4.30  
 IrfanView portable 4.30  
 Phocus 2.6.3  
 Phocus Sample Images  
 Photo Commander 8.50 (full version)  
 Photobie 7.2.10  
 PhotoME 0.79R17  
 RadCor 2.05  
 Raw Therapee 2.4.1

### Photoshop Plug-ins

Actions:  
 2-Strip Technicolor CS5  
 Aged Type CS3  
 Fake Depth of Field Instantly CS3  
 Pro Sharpening Actions CS5  
 Skin Smoothing CS4  
 Vignetting CS4  
 Brushes:  
 Bubble Wobble Brushes CS3  
 Cloud Set CS4  
 Flourish Brush Set CS3  
 Flowers CS2  
 Handwritten Alphabet CS4  
 Kaiju 2 CS2  
 Mistletoe Brushes CS5  
 Splatter Brushes CS4  
 Tattoo Art CS2  
 Toy Soldier Brushes CS3

### Sample Images

3D Camera Test Sample Images  
 Camera Test Sample Images  
 Distortion Correction Test Images

### Video Editing

DSLR Video Workshop  
 AviSynth 2.5.8  
 AviSynth MT 0.7  
 Bitrate Viewer 2.2  
 Deshaker 2.7  
 MedialInfo 0.7.46  
 MKVToolnix 4.8.0  
 MVTools 2.5.11.2  
 Open Codecs 0.85.17777  
 VirtualDub 1.9.11  
 VirtualDub portable 1.9.11

### Videos

FotoTV Interview with Juergen Rink, c't Digital Photography's editor-in-chief  
 3D Photography Video Tutorials

### Special Offer

Gold Membership at [nikonians.org](http://nikonians.org)





## Portfolio

# Maak Roberts

**Though his work is familiar to millions, his photos are rarely exhibited or seen hanging in galleries, for Maak Roberts takes photos for magazines, billboards and advertising campaigns.**

In addition to commissioned work, Roberts also works on projects of his own, but unlike many of his colleagues, he does not make a clear division between art and commerce. As far as he is concerned, advertising photography and artistic self-fulfillment go hand in hand.

However, he does not see himself as an artist. He believes that self-confrontation and analysis of social issues are part of the artistic vocation, which is a role he does not fulfill. This self-analysis is perhaps too severe for someone whose photos have such obvious artistic value.

Roberts' photos speak volumes. He has the knack of making an image tell an entire story – for example, describing the tortuous path of an orange through a muscle-powered juice press. Many of his subjects portray absurd situations: a man riding an enormous cardboard seahorse in an empty swimming pool or lighting a cigarette from a drawing of a lighter on his T-shirt. There's always something unusual to be discovered, and it is often just a tiny detail that transforms the everyday into the absurd. The viewer is compelled to linger and engage with the photo.

The images are put together with the greatest of care, and teams in London, Ham-

burg, Berlin and Paris sometimes spend weeks preparing a shoot. The polyglot Roberts was born to an English father and a German mother, and is constantly on the move. He grew up in Germany, Australia, England and France and now lives in London and Berlin. Following various internships and after assisting a number of established photographers, he trained as a photo designer. The strict confines of the academic world were not for him and he left college without completing the course. He quickly began to get freelance work shooting for record companies and magazines, and later for advertising agencies, too, as his reputation grew.

The absurd scenes that are his trademark fit very well into the advertising world, but Maak Roberts also manages, thanks to his use of recurring stylistic elements, to put his personal signature on images that are ultimately controlled by corporate policy. He understands how to subtly grab the viewer's attention so that the message only hits home at a second glance. This style could be an eminently suitable vehicle for challenging his own attitudes and views, as well as those of society, although this isn't Roberts' stated aim. But who knows where a photographer's creative journey may lead? (jr)

**"The man in this photo sells a newspaper for homeless people in Buenos Aires. The photo came about during a project I shot in collaboration with a good friend who was living there for a while. She designed the T-shirts specially for this shoot."**



“Shot at the zoo in Berlin for the magazine *J’N’C* – the source of some of my favourite freelance commissions. I had read Eugène Ionesco’s *Rhinocéros* and somehow came up with the idea of putting animal heads on people and photographing them in everyday situations.”

“This series was shot in collaboration with Miguel Gonzalez, who works at a London advertising agency. People often use pens to drum on tables when they’re bored, and Miguel developed this habit into the slogan ‘Used by the Worst Drummers in the World’. The resulting photos received an award in the 2010 Creative Review Photography Annual.”





"Part of a shoot for *J'N'C*. I'm often asked whether the illustrations were created electronically after the shoot. In fact, one of my assistants designed the window and the cupboard and painted them on white cardboard. Whenever possible, I like to compose my photos in front of the camera rather than on paper or on a computer."

