r | c
reader's choice
Downloadable solutions selected by our readers

Beyond the Manual:
Master your digital camera's features

element k
JOURNALS
A Division of Element K Press

Table of Contents:

Additional Information:

Reader's Choice PDF Series, Beyond the Manual: Master your digital camera's features (ISBN-1-58205-093-7) is published by Element K Journals, a division of Element K Press, 2165 Bri-Hen TL Rd. Ste. 3, Rochester, N.Y., 14623.

Customer Relations

U.S. toll-free .....(800) 223-8720
Outside the U.S. .....(585) 240-7301
Customer Relations fax .....(585) 292-4392

Editorial

Editor ..... Stephen Dow

Sr. Director of Editorial, Design, and Web Services .... Michelle Rogers
Managing Editor ..... Dianne Sloan
Copy Editors ..... Jeff Hotchkiss
Leesa Israel
Contributing Editor .....G.H. Cloutier
Cover Design, and Content Designer .....Melissa Ribaudo
Graphic Designer .....Melissa Ribaudo

Price

Price $14.95

Our Canadian GST # is R140496720. Our CPM # is 40031405.
Our QST # is 1018491237.

Copyright

Please be aware of our copyright policy. Questions or requests for permission to copy or republish any content may be directed to: contentreuse@elementk.com.

© 2003 Element K Journals, a division of Element K Press LLC ("Element K"). All rights reserved except for the right to view this PDF using a Web browser and to make private, noncommercial use hereof. PDF content may be printed by the purchaser, but may not be duplicated and distributed. Element K and the Element K logo are trademarks of Element K LLC. The content published in this PDF ("Content") is the property of Element K or its affiliates or third party licensors and is protected by copyright law in the U.S. and elsewhere. This means that the right to copy and publish the Content is reserved. Content may not be copied in whole or in part or further distributed in any form or medium without the express written permission of Element K.

All product names or services identified throughout this PDF are trademarks or registered trademarks of their respective companies.

Multi-user options are available

To request information about multi-user options please call Brian McKeon at (585) 292-4363.

A Note from our Publisher:

Dear Digital Photography Enthusiast,

Thank you for choosing Element K Journals, the leading provider of computer technology journals and professional development products, as your comprehensive, innovative, and timely information resource.

Since the company's inception more than 20 years ago, publishing best-selling software support books has evolved into producing a complete line of digital and print products designed to complement every skill level and provide solutions to the challenges you face every day. Throughout this period of growth, we have maintained our focus on providing you with the highest quality content, in an easy-to-read format, through the best mediums available.

That's why we've created the new ***Reader's Choice PDF Series***. This series of downloadable reports contains a best-of selection of our most-requested articles covering hot topics in technology and professional development. Now you can have instant access to the information you need—right here, right now!

In addition to our ***Reader's Choice PDF Series***, Element K Journals produces nearly 40 monthly how-to journals, a family of CD-ROM products, Quick Skills Kits, Quick Reference Guides, Quick Reference Cards, special reports, tip booklets, and weekly email tips.

For more information regarding Element K Journals and a complete product listing, please visit our Web site at **www.elementkjournals.com**.

Sincerely,

Doreen M. Bieryla
Publisher, Element K Journals

A Note from the Editor:

User's manuals can be technical, tiresome, and tedious. I've always found good basic information in them, but never the real juicy tips that can help you get the most from your digital camera. In *Exploring Digital Photography*, I try to use my personal and technical experience with digital cameras to make it easy for our subscribers to get the most from their own digital cameras. I've put together a collection of articles that takes you beyond your user's manual and offers a hands-on approach to learning how to use the advanced features of your camera, from selecting proper exposure settings to correctly framing your shot.

Editor Bio:

Stephen Dow is the editor of *Exploring Digital Photography* and is an avid photographer, concentrating mostly on digital photography and digital image editing. His enthusiasm for this subject comes from the constant innovation and integration of photography into everyday life.

© 2003 Element K Journals

Take better pictures by selecting the correct ISO setting

by Stephen Dow

When digital cameras first hit the consumer market in the 1990s, manufacturers borrowed a bunch of terms from traditional film photography to help potential buyers relate to the new technology. Unfortunately, some of these terms were far from accurate when comparing film exposure to digital capture. One of the greatest offenders is the use of the term ISO to describe a digital camera's sensitivity to light. While ISO value for film is a straightforward concept, understanding how ISO affects your digital camera can be confusing. Selecting the appropriate ISO setting when shooting with your digital camera is crucial for reducing pixel noise and maintaining image quality.

Digital cameras are so sensitive

In this article, we're going to explain how the ISO setting on your digital camera can be used to produce better images and avoid poor ones. First, we'll go into more detail on what ISO means to your digital camera. Next, we'll explain the technical side of how digital cameras use the ISO setting to control the sensitivity to light. Then, we'll explain the concept of noise and tell you how noise develops during image capture, especially at higher ISO settings. Finally, we'll give you some tips for using ISO settings when shooting in everyday situations, as well as how to select a digital camera that will give you the most ISO flexibility.

Understanding ISO

The acronym *ISO* stands for *International Organization for Standardization*, a non-governmental collection of worldwide standards agencies that attempts to develop international trade by developing standards. What does this have to do with photography? Well, the ISO has a set of standards for many aspects of photography, the most prevalent of which is the system of using ISO standards to rate film speed. Those of us who still remember film (just kidding) know that you can buy film in a variety of film speeds, such as ISO 100, ISO 200, etc. The lower the number, the less sensitive the film is to light. Therefore, a film rated ISO 800 is much more sensitive to light than an ISO 100 film.

Film manufacturers achieve this light sensitivity by increasing the size of the silver halide grain on the film. The larger the grain, the quicker its reaction time to light. This makes higher ISO films better at capturing action shots, even in low light situations, because the shutter speed can be fast while still achieving a proper exposure. However, this larger grain size comes at a cost, due to the fact that the grains tend to be much more visible to the naked eye. This "graininess" can be avoided by using films with smaller grains, such as ISO 100 or ISO 200, but since these grains need more time to be exposed to light, the amount of time your shutter is open must increase, opening the door for possible blurry images. Higher ISO ratings require less light, so they allow the shutter to be faster, reducing blurring from camera movement.

The digital side of ISO

Digital cameras follow the same basic idea, but in a completely different way. Since digital cameras don't use film, all ISO adjustments are made on the image sensor. If the camera has been set for a higher ISO setting, the pixels receiving the electronic signal that makes up the image are amplified, increasing the sensitivity to light. The technical term for this is *gain*, and is defined as the amount of electronic signal amplification taking place on the image sensor. Gain is a much better term for describing the light sensitivity of digital camera sensors, but camera manufacturers continue to equate gain capabilities to ISO settings—presumably to help consumers and professionals alike understand how to make adjustments. So keep in mind when using ISO ratings with digital cameras, the number is for reference only.

The range of ISO adjustments depends on your digital camera. Some professional digital cameras offer ISO sensitivity up to a dizzying ISO 3200 and down to sloth-like ISO 80. The mid-level digital cameras, sometimes called "pro-sumers," usually give a narrower range of choices such as ISO 100, ISO 200 and ISO 400. These correspond to the more consumer-aimed film speeds available at any supermarket. But here's the good part—instead of having to pop in a new roll of film when you want to change film speed or even lugging around multiple cameras with different films loaded,

© 2003 Element K Journals