

1

Around a Digital SLR

7

About This Book	8
Why a Digital SLR?	10
Camera Body	12
Controls	14
Menus	16
Viewfinder and LCD Screen	18
Live View	20
Memory Cards	22
Image Sensors	23
File Formats	24
Resolution	26
Image Size	27
Lenses	28
Flash	30
Tripods	32
Cleaning	34
Filters	36

2

Functionality of a D-SLR

37

Aperture	38
Shutter Speed	40
Understanding Exposure	42
ISO Settings	44
Focal Length	46
Focusing	48
Automatic Settings	50

3

Workflow

51

Why Workflow Matters	52
Computer Issues	53

Workflow Software	54
Metadata and Tags	56
Keywords	58
Searching for Images	60
Image Editing Software	62
RAW Images	63
Workflow Checklist	64

4

Camera Techniques

65

Camera Orientation	66
Cropping and Image Size	68
Using Bracketing	70
Capturing Macro Shots	72
Zooming Effectively	74
Keeping the Camera Steady	76

5

Lighting Issues

77

White Balance	78
Indoor Shots	80
Fill-in Flash	82
Polarizing Filters	84
Types of Natural Light	86
The Golden Hour	88
Creating Grainy Effects	90

6

Exposure and Metering

91

Depth of Field	92
Blurring the Background	94
Matrix Metering	96
Spot Metering	98
More Spot Metering	100
Exposure Compensation	102
Creating Silhouettes	104
Dynamic Range	106

7

People and Portraits**107**

Distances and Angles	108
Group Shots	110
Capturing Activities	112
Candid Shots	114
Posed Options	116
Filling the Frame	118
Children	120
Relaxed Portraits	122

8

Artistic Architecture**123**

Finding the Right Spot	124
Capturing the Best Light	126
Using the Angles	128
Emphasizing Size	130
Concentrating on Details	132
Using Patterns	134
Foreground Elements	136
Dealing with Distortion	138

9

Capturing Landscapes**139**

Creating Your Scene	140
Creating Moods	142
Including Objects of Interest	144
Story Telling	146
Bands of Color	150
Panoramas	152
Reflections	154

10

Using Motion Creatively**155**

Stopping Water	156
Blurring Water	157
Capturing Speed	158
Blurring Speed Objects	159
Continuous Shooting	160
Creating Ghostly Shadows	162

11

Effective Composition

163

Rule of Thirds	164
Moving the Horizon	166
Framing a Scene	168
Still Life	170
Waiting for the Right Shot	172

12

Unusual Conditions

173

Fireworks	174
Car Tail Lights	176
Capturing Food	177
Water at Night	178
Illuminating Buildings	180
Cityscapes at Night	182
Snow Scenes	184
"Zoomed" Images	186

13

Inspiring Techniques

187

Think Like a Photographer	188
Assessing Your Work	190
Varying Distances	192
Remember Your Foreground	194
Thinking in Color	196
The Perfect Portrait	198

14

Editing Techniques

199

Levels	200
Cropping	202
Cloning	204
Selections	206
Layers	208
Filters	210

Index

211

1

Around a Digital SLR

This chapter provides a thorough overview of digital SLR cameras and shows how they can be of great benefit to all photographers. It covers the construction of a digital SLR and the controls that you can expect to find on this type of camera. It also looks at issues relating to digital photography and covers some of the accessories that you may need to enhance your photography.

About This Book

The purpose of this book is simple: to explain the general workings of digital SLR cameras, show how to use them and also how to take better photographs with them. Hopefully, it will make you more confident about taking control with your digital SLR and begin to think more as a photographer rather than just as someone who takes a few snaps with a camera.

Taming the technology

Digital SLR cameras are complex in their design and consist of a remarkable amount of electrical and digital wizardry. However, the idea of this book is to give you enough technical information about digital SLRs so that you can use them effectively, without producing a dissertation about the finer points of the technology. The aim is to give you the technical information that you need to use a digital SLR without weighing you down with scientific formulae, charts and graphs. (Thousands of pages do exist with this type of detail, but this book concentrates on the practical rather than the theory.) The first three chapters of the book look at the workings of digital SLR cameras and how you can get the most out of using them.

Focusing on photography

The other main emphasis of the book is about using digital SLRs to take better photographs. When you feel comfortable about the functions of your camera you will be able to spend more time on capturing images.

Various shooting situations are looked at, with particular emphasis on the settings that can be used on a digital SLR.

The book is not a guide to editing images or image editing software (there are dozens of these on the market and two to look at are *Photoshop in easy steps* and *Photoshop Elements in easy steps*). Although image editing is a crucial part of digital photography it is always important to try and take the best photographs in the first place. This will reduce the need for extensive editing and just because you can take hundreds of images on a digital camera it does not mean that you should not strive to make each one as good as it possibly can be.

Ultimately, this book hopes to demystify the subject of digital SLR photography and help you to become a confident photographer who has fun and produces stunning images.



Don't forget

Digital SLR cameras have detachable lenses which is one reason why they offer a lot more flexibility than compact cameras.

Don't forget

Websites such as Amazon now have dedicated sections for digital SLR cameras.

Why a Digital SLR?

When digital photography was in its infancy, the concept of digital SLR (Single Lens Reflex) cameras was something of an unobtainable dream for most photographers. However, times change quickly in the digital world and digital SLRs are now a credible, and affordable, option for anyone who wants to expand their photographic horizons.

History

The first digital SLR camera to significantly make an impact on the consumer market was the Canon EOS 300D (also known as the Digital Rebel). Released in August 2003 this was the first truly affordable digital SLR. It also achieved a level of quality that made a lot of photographers sit up and pay attention to the possibilities of digital SLRs. The EOS 300D was quickly followed by the Nikon D70 and these two manufacturers still command the majority of the digital SLR market, with approximately 40% each. Other players in the digital SLR market include Olympus, Sony, Pentax, Fujifilm, Mamiya, Sigma and Leica.

Advantages

Since the introduction of the EOS 300D, digital SLRs have made huge advances, in terms of both quality and affordability. When considering whether to buy a digital SLR, some areas to look at are:

- **Quality.** Digital SLR cameras provide better image quality than compact digital cameras, generally through the use of a larger image sensor for capturing images. (This is why a digital SLR will capture a higher quality image than a compact digital camera with the same pixel count.) Even if you always keep a digital SLR in automatic mode it will consistently capture images of the highest quality
- **Functionality.** When affordable digital SLR cameras first came onto the market, a lot of photographers were disparaging about them, claiming that they did not have the quality or functionality of traditional film SLR cameras. However, as the quality has increased so has the functionality, to the point where there is little difference between the digital and the film versions. This functionality gives you the flexibility to take greater control over your photography

- **Pixels.** Since the advent of digital photography, most users have become familiar with the words 'pixels' and 'megapixels'. A contraction of 'picture element', pixels are the tiny colored dots that are used to create digital images. Digital cameras are referred to as having a resolution of a certain number of pixels (e.g. 10 million) or a megapixel value (e.g. 10 megapixels). A megapixel is equivalent to one million pixels. In general, digital SLRs have a higher pixel count than compact varieties, with figures currently moving up towards 15 million for some manufacturers. The pixels in a digital SLR tend to also be of a higher quality since their image sensors are larger than their compact counterparts. This enables more color information to be captured for each individual pixel, resulting in a higher quality image
- **Price.** The days of digital SLRs being prohibitively expensive have thankfully passed and in a lot of cases it is a question of which digital SLR camera to buy rather than whether to buy one. Most manufacturers have an entry level camera and then a range of more sophisticated, and expensive, models. The entry level models usually offer exceptional quality and enough functionality for most amateur photographers and they are an excellent option for anyone taking their first steps in the world of digital SLR photography
- **Speed.** One of the great technical advantages of digital SLR cameras is their speed. This covers: start up time, shot time lag and shot recycling speed. Start up time refers to the time it takes the camera to be ready for use once it is turned on. Since compact digital cameras rely on a lot of digital wizardry just to be ready for use, their start up time is a lot longer than a digital SLR, which is ready for use almost immediately. Shot time lag is the fraction of a second that elapses in compact cameras from when the shutter release button is pressed to when the photo is captured. This small delay can result in an unsatisfactory final image but the operation of a digital SLR ensures that the image is captured as soon as the shutter release button is pressed. Shot recycling speed refers to how long it takes a digital camera to be ready to take the next photo; in most digital SLRs it is almost immediate

Don't forget



Image sensors and pixel quality are something that digital SLR manufacturers are constantly looking to improve in terms of both size and quality.



Camera Body

One of the essential differences between a digital SLR camera and the compact alternative is that the SLR has two distinct elements: the camera body and the lens. The camera body contains all of the necessary functionality for the camera, while the lenses are used to transfer light through to the camera body and the image sensor, where the image is captured.

Digital SLR camera bodies can be bought separately from lenses but they are frequently sold together and you can also buy a digital SLR camera kit, which usually consists of the camera body and two lenses.

Feel

The first thing to consider about the camera body is how it actually feels in your hands, since camera bodies differ in terms of size and materials. It is important that you feel comfortable handling the camera as it could become an irritation if you do not feel at ease with the body. Pay particular attention to the grip as this will be the main point that you use to keep the camera steady.

Weight

The weight of a digital SLR is another factor that you should take into consideration. By their nature they are larger, and heavier, than compact cameras and this is something else that you should physically test before you buy one. In general, entry level digital SLRs are lighter than more sophisticated models and cameras from different manufacturers can also vary in weight. Consider the weight in relation to using the camera and also carrying it around – once you have added a couple of lenses and a good quality camera bag you may find that your digital SLR package weighs a lot more than just the camera body. Of course, some users will favor a more substantial feel as it can be more reassuring.

Controls

The functionality of the standard controls of digital SLRs are largely consistent across different models. The controls are usually dials and buttons situated on the camera body that are used to access the most commonly used functions of the camera (see the facing page for details). As with the feel and weight of the camera, it is important to test these controls to ensure that you can access them quickly and easily. If you are in a pressurized shooting situation you want to make sure that you do not have to spend a lot of time fiddling around with the controls.

Beware

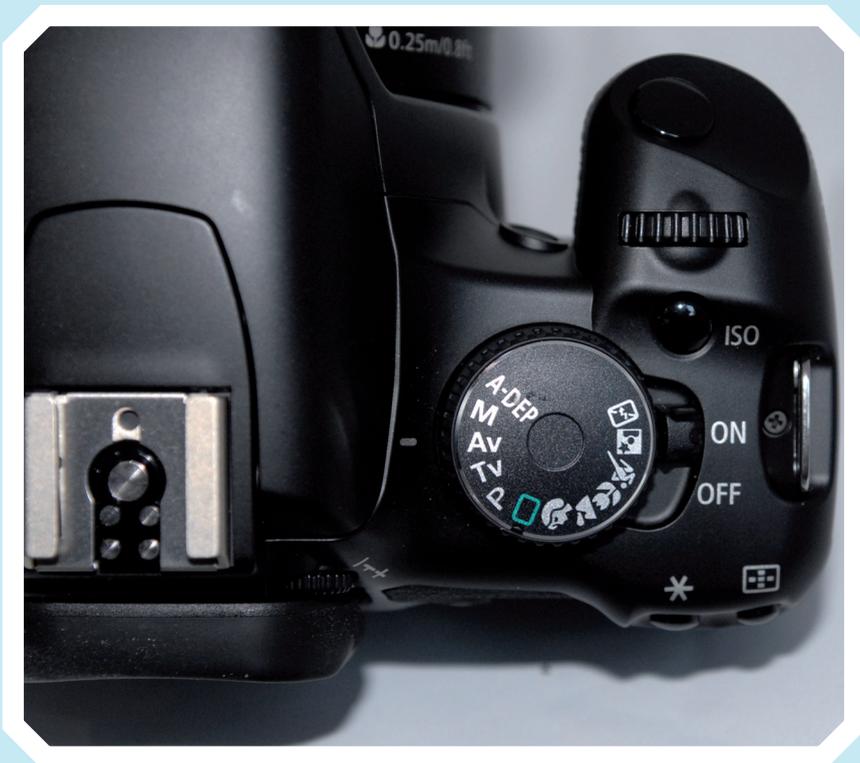


Even if you are buying a digital SLR camera online, take the time to physically test the same model before you buy it.

Don't forget



The camera body is also where the batteries are housed. The best type to use are rechargeable Lithium batteries, known as Lithium-Ion.



Don't forget

Most digital SLRs have a selection wheel on the back of the camera body. This can be used to navigate through menus (see the facing page) and when reviewing images.

Controls

Although digital SLRs have extensive menu systems (see next page) they also have a number of controls on the camera body, in the form of dials and buttons. This replicates the design of film SLR cameras and allows the user to quickly access the most frequently used functions of the camera. The types of controls that are found on digital SLRs are:

Control wheel

This is used to access shooting modes such as preset modes and other settings such as aperture priority, shutter priority, automatic and fully manual.

Focus selection

This is used to select the method of focus, usually autofocus or manual focus.

Metering

This is used to select the method of metering a scene to determine the required exposure. The options are usually matrix metering, center-weighted metering and spot metering.

Exposure compensation

This is used to increase or decrease the amount of light in a scene.

Flash

This is used to activate the camera's onboard flash unit.

Shooting mode

This is used to select whether to use the camera in single shot mode, self timer or continuous shooting mode i.e. shots keep being taken for as long as the shutter release button is held down.

ISO

This is used to change the camera's ISO equivalent settings. This is used to make the image sensor more, or less, sensitive to light. It is used in different lighting conditions and is looked at in more detail in Chapter Two.

White balance

This is used to change the camera's white balance settings. It is used to maintain image consistency when taking photos under different types of light i.e. sunlight, cloud, artificial light and flash. This is looked at in more detail in Chapter Five.

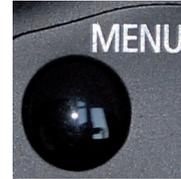


Menu

In addition to the camera controls, digital SLRs have a wealth of options within the camera menu. These are accessed through the Menu button (usually situated on the back of the camera body, next to the LCD screen) and are viewed on the LCD screen. Each camera menu system will have separate sections, with various selection options in each section.

Accessing and navigating menus

Camera menus can usually be accessed by pressing the Menu button on the back of the camera:



Once within the menu structure, it is possible to navigate around it with the selection wheel:



Move up and down the menus by pressing the vertical buttons and through a menu option by pressing the horizontal buttons.

Shooting menus

These include options for:

- Image optimization
- Image quality
- Image size
- ISO settings
- White balance settings
- Noise reduction
- Image sharpening
- Hue and contrast

Don't forget



Depending on the manufacturer, some digital SLR cameras may have more than one series of menus for each option i.e. there may be two shooting menus.

Play (Playback) menu

These include options for:

- Deleting images
- Image orientation on screen
- Slideshow options
- Printing options
- Protecting images from deletion
- Folder selection options

Setup menu

These include options for:

- Formatting memory cards
- Date and time
- Language
- Screen display information
- File numbering
- Auto shooting information
- Video options (if available)

Customizable menu

These menu can be used to create your own custom settings that can be applied for certain shooting situations.

Retouch menu

These include options for:

- Red-eye reduction
- Crop
- Special effects

Help menu

These offer help information about the functions of the camera and also for photographic situations.

Don't forget

Camera setting information on the LCD screen includes: information about the aperture, shutter speed, white balance setting, ISO setting, focus area, exposure settings and battery charge level.

Viewfinder and LCD Screen

Composing a scene and reviewing the results are essential parts of a digital camera. For digital SLRs, the former has traditionally been done by the viewfinder and the latter by the LCD screen. However, in recent years a new technology has been developed to enable the LCD screen to be used to compose an image too. This is known as live view and is looked at on page 20.

Viewfinder

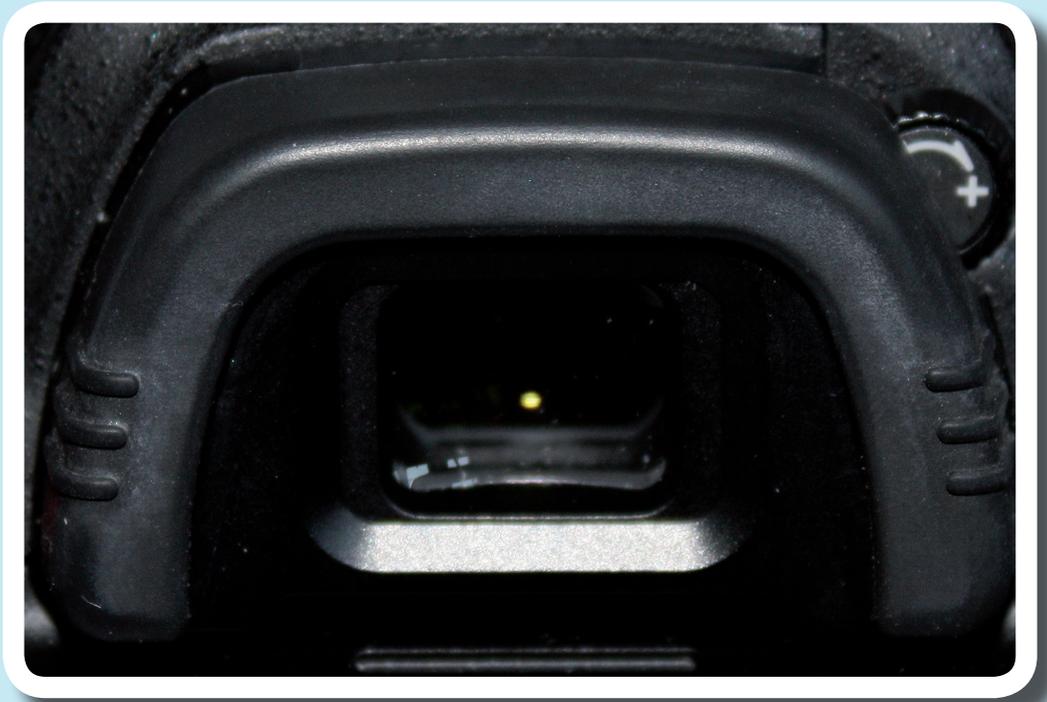
The viewfinder of a digital SLR is the small window through which you look to compose a scene. It contains information about the current camera settings and it also enables you to select features such as the point of focus in a scene. The important issue to remember with a viewfinder on a digital SLR is to go for an optical one rather than an electric one; optical viewfinders give a more accurate image and this is one case when the old fashioned method is better than the technological one.

LCD screen

Traditionally, the LCD (Liquid Crystal Display) screen on a digital SLR has been used for three main reasons:

- Reviewing images that have been taken. This can be used to display a variety of information about the images, such as the camera settings used when the image was captured. The magnification can also be increased to view image details
- Menu settings. Other than camera body controls, the menu options of a digital SLR are accessed and displayed through the LCD screen
- Camera settings. Some digital SLRs display the current camera settings on the LCD screen. This is a more recent development (in earlier digital SLRs this information was usually shown in a small window on the top of the camera body) and is an excellent way to quickly see the settings for a particular shot

Due to their design, digital SLR cameras have not historically lent themselves to using the LCD panel as an additional viewfinder in the same way as compact digitals do. However, in 2006 the first digital SLR with this feature (known as live view) appeared and it is now widely available.



Don't forget

Different makes of digital SLRs have different ways of accessing the live view option. Some perform it through the camera's menu system (see facing page) while others do it through a button on the camera body.

Hot tip

Uses for live view include close-up shots where you may not be able to get your eye next to the viewfinder or for portrait shots where you may want to talk to the subject without looking through the viewfinder.

Live View

One of the recent innovations for digital SLR cameras has been the introduction of live view as a means of framing a scene before the image is captured. Users of compact digital cameras will be very familiar with this technology; almost all compacts use live view as the means of displaying a scene, done via the LCD screen. However, it was not until 2008 that this started to appear regularly on digital SLR cameras.

How it works

Due to their design digital SLR cameras show an accurate, optical, image of a scene in the camera's viewfinder. This is done through a series of mirrors in the camera and the lens, which produces an accurate representation of what is seen through the viewfinder. However, compact digital cameras do not have the luxury of this type of design and so have to rely on other methods for framing a scene. One way to do this is live view. This is often achieved by projecting a continuous image from the lens onto the image sensor. The LCD screen can then be used to view this continuous projection. The projection is achieved through electronic, rather than optical, means and so is not as accurate as an optical viewfinder.

Why live view on a digital SLR?

In some ways the existence of live view on digital SLRs is something that has been done just because it is possible. The optical viewfinder is still more accurate and there are two advantages of using this over live view:

- **Functionality.** Due to the fact that live view relies on complicated electronic technology this restricts its functionality. In particular, there are issues around the use of autofocus and using some of the camera's different shooting modes. It also uses more battery power
- **Steadiness.** If you are using live view with a digital SLR then the camera body and lens will be held at a distance from your body, unlike using the optical viewfinder. This increases the possibility of a blurred image due to camera shake, i.e. the camera moving slightly as the shot is being taken

Live view is an interesting development but one that has a long way to go until it regularly challenges the optical viewfinder.