A close-up photograph of a butterfly with black and white wings, perched on a cluster of small red flowers. The butterfly's wings are spread, showing a complex pattern of black veins and white spots. The background is a soft, out-of-focus green.

Learn the best
ways to compose
your pictures!

Creating DSLR Video

From Snapshots to Great Shots

Get great detail
in your subjects!

Richard Harrington

Creating DSLR Video: From Snapshots to Great Shots

Richard Harrington



Peachpit
Press

Creating DSLR Video: From Snapshots to Great Shots

Richard Harrington

Peachpit Press
1249 Eighth Street
Berkeley, CA 94710
510/524-2178
510/524-2221 (fax)

Find us on the Web at: www.peachpit.com
To report errors, please send a note to errata@peachpit.com
Peachpit Press is a division of Pearson Education

Copyright © 2012 by Richard Harrington

Editor: Nancy Peterson
Production editor and compositor: Danielle Foster
Development editor and copyeditor: Anne Marie Walker
Proofreader: Liz Welch
Indexer: Jack Lewis
Cover design: Aren Straiger
Cover production: Mike Tanamachi
Interior design: RHDG - Riezebos Holzbaur Design Group
Cover Image: Richard Harrington
Back cover author photo: Vanelli

Notice of Rights

All rights reserved. No part of this book may be reproduced or transmitted in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. For information on getting permission for reprints and excerpts, contact permissions@peachpit.com.

Notice of Liability

The information in this book is distributed on an “As Is” basis, without warranty. While every precaution has been taken in the preparation of the book, neither the author nor Peachpit Press shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the instructions contained in this book or by the computer software and hardware products described in it.

Trademarks

Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and Peachpit Press was aware of a trademark claim, the designations appear as requested by the owner of the trademark. All other product names and services identified throughout this book are used in editorial fashion only and for the benefit of such companies with no intention of infringement of the trademark. No such use, or the use of any trade name, is intended to convey endorsement or other affiliation with this book.

ISBN 13: 978-0-321-81487-6
ISBN 10: 0-321-81487-8

9 8 7 6 5 4 3 2 1

Printed and bound in the United States of America

DEDICATION

To my wife Meghan, your patience and humor make each day a joy to live.

To my children Michael and Colleen, you make me want to be a better man.

To my family who has always supported me and blessed me with many talents,
thanks for all that you do.

—Richard Harrington

ACKNOWLEDGMENTS

Bringing a book to life is a lot of work. I'd like to specifically thank the folks who provided support or gave of their talents. A special thanks to my friends and family for enduring time in front of the camera. Thank you as well to Robert Vanelli, Lisa Robinson, and Meghan Ryan-Harrington, who contributed behind-the-scenes photography to help explain the techniques discussed in this book.

Gary Adcock	Matt Gottshalk	Nancy Peterson
Adorama	Jeff Greenberg	Redrock Micro
Adobe	Mimi Heft	Lisa Robinson
Jim Ball	Frederick Johnson	Abba Shapiro
Scott Bourne	Karyn Johnson	Jeff Snyder
Kevin Bradley	Scott Kelby	Cindy Tuten
Robbie Carman	Ben Kozuch	Alec Vanelli
RC Concepcion	Peter Krogh	Robert Vanelli
Scott Cowlin	Vincent Laforet	Anne Marie Walker
Sam Crawford	Lynda.com	Mark Weiser
Creative COW	John Lytle	John Woody
Emmanuel Etim	Cheryl Ottenritter	Zacuto

Contents

INTRODUCTION	IX
CHAPTER 1: WHAT IS DSLR VIDEO?	1
Poring Over the Footage	2
Poring Over the Footage	4
Why Is DSLR Video So Popular?	6
What's Great About DSLR Video?	7
What's Not So Great About DSLR Video?	10
Shooting with Motion in Mind	15
Chapter 1 Assignments	19
CHAPTER 2: ESSENTIAL EQUIPMENT	21
Poring Over the Camera	22
Getting Started	24
Choosing a Camera	25
Memory Cards—Lots of 'em	31
More Power for the Camera	35
Choosing Lenses	36
A Stable Platform	42
Chapter 2 Assignments	45
CHAPTER 3: SETTING UP YOUR CAMERA	47
Poring Over the Camera	48
Choosing a Frame Size	50
Choosing a Frame Rate	52
White Balancing Your Camera	55
Choosing a Shooting Mode	59
Adjusting the Volume	60
Using Picture Styles or Controls	61
Chapter 3 Assignments	65

CHAPTER 4: EXPOSURE AND FOCUS	67
Poring Over the Footage	68
Poring Over the Footage	70
The Exposure Triangle	72
Controlling Depth of Field	76
Setting Focus	81
Maintaining Focus	83
Using a Loupe	84
Using a Viewfinder or Monitor	86
Chapter 4 Assignments	89
CHAPTER 5: COMPOSING SHOTS	91
Poring Over the Footage	92
Poring Over the Footage	94
Poring Over the Footage	96
Shot Types	98
Shot Angles	101
Cinematic Composition	103
Repeating Action	108
Making a Shot List	110
Chapter 5 Assignments	111
CHAPTER 6: SHOOTING IN DAYLIGHT	113
Poring Over the Footage	114
Understanding Sunlight	116
Avoiding Lens Flares	123
Controlling the Camera in Daylight	126
Chapter 6 Assignments	133
CHAPTER 7: SHOOTING IN LOW LIGHT	135
Poring Over the Footage	136
Poring Over the Footage	138
The Challenge of Shooting in Low Light	140
Changing Your F-stop	144
Raising Your ISO	147
Adjusting Shutter Speed	150
Shooting at Sunrise or Sunset	152
Chapter 7 Assignments	155

CHAPTER 8: SHOOTING INDOORS	157
Poring Over the Footage	158
Poring Over the Footage	160
Using Available Light	162
Adding More Light	164
The Concept of Three-point Lighting	170
Chapter 8 Assignments	173
CHAPTER 9: RECORDING SOUND	175
Capturing Great Audio	176
Technical Essentials of Audio	177
Microphone Pickup Patterns	179
Recording Audio with the Internal Microphone	180
Recording Audio with an On-camera Microphone	181
Recording Audio with a Lavalier Microphone	181
Recording Audio with Dual System Sound	184
Monitoring Your Audio	188
CHAPTER 10: BACKING UP AND ORGANIZING YOUR FOOTAGE	191
A Practical Workflow	192
Choosing a Card Reader	193
Choosing Hard Drives	195
Transferring Your Footage	201
Organizing Your Footage	202
The Option of Transcoding	205
CHAPTER 11: EDITING ESSENTIALS	209
Poring Over the Equipment	210
Choosing Editing Software	212
Essential Editing Controls	215
Syncing Sound	223
Adding Transitions	228
Adjusting Exposure and Color	230
Chapter 11 Assignments	247

CHAPTER 12: PUBLISHING AND SHARING VIDEO	249
Quality Checks	250
Outputting a Backup Copy	252
Delivering Video to the Web	253
Specific Hosts for Web Video	258
The End of the Road?	270
INDEX	271

Introduction

I truly love the power of video. It's my favorite medium for telling stories because it gives me the ability to capture life and emotion. For more than 25 years, I've been shooting video, capturing family moments on the weekend and creating television commercials, broadcast news, and web video on the weekdays.

However, the best feeling is not seeing my own work, but rather watching others catch enthusiasm and decide to become visual storytellers. Two years ago I set out to document the merger of photography and video when I co-wrote *From Still to Motion: A photographer's guide to creating video with your DSLR* for Peachpit Press. The book was well received by the pro community, but I heard from many that they needed a foundation to build on. I also talked to friends, relatives, and even perfect strangers who wanted to learn how to shoot great video on a tight budget (without having to rope their friends into being part of the crew).

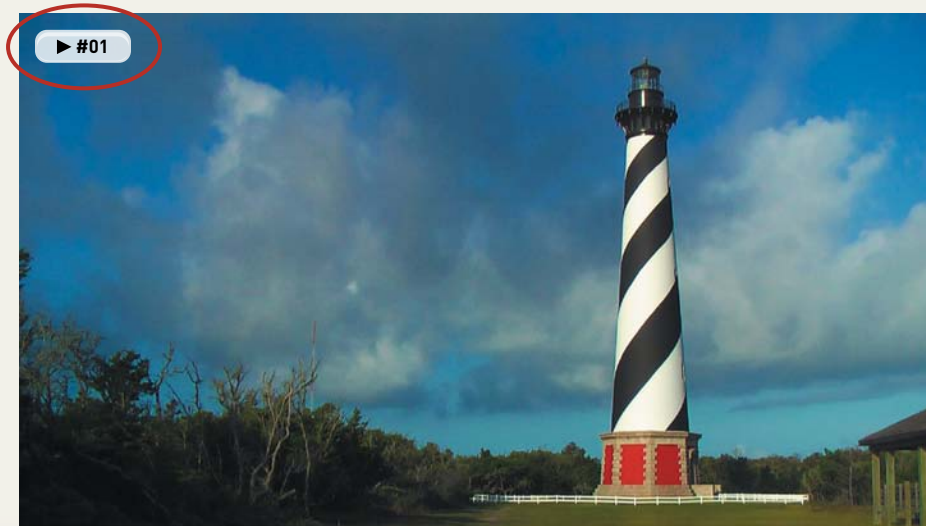
To this end, I present *Creating DSLR Video: From Snapshots to Great Shots*. I set out to teach people how to make better video and short films using minimal gear and resources. The goal is to make the most of what you have and focus on building the core skills you need to succeed. Whether you're just getting started with video or you're an enthusiastic still shooter who's been at it for years, I'll guide you through how video works and help you get the best shots.

The book begins by illustrating what's so great about shooting DSLR video. You'll understand why you'd choose to shoot video on a "stills" camera as well as some of the problems to look out for. Chapter 2 then walks you through equipment choices. Whether you've bought a new camera or just want to get more from your existing gear, I'll explain how here. I also focus on what new gear is most useful as you grow into your hobby and start to invest.

In Chapter 3 you'll learn how to set up your camera properly. You'll learn important technical steps, like how to white balance for natural color, which frame rate to shoot at, and which settings produce smooth motion. Chapter 4 explains how to properly expose your shots and maintain critical focus.

WATCH SAMPLE CLIPS ONLINE

Throughout this book you'll see several instances of an icon and number superimposed on a video image.



This icon indicates that I've placed a short video clip online so you can see the actual footage. To view the clips, just visit vimeopro.com/dslrfstgs/examples. You don't need to have a Vimeo account to access the videos. If you'd like to comment or post your own videos to the group, just sign up for one of the free or paid account options.

The important skills needed for composition are covered in depth in Chapter 5. You'll learn the language of cinematography and how to think about linking multiple shots into a narrative sequence.

The next three chapters tackle several common shooting scenarios. Chapter 6 provides you with strategies for outdoor shooting and working with the sun. In Chapter 7 you'll explore the opposite problem of shooting when there is very little light. You'll then learn how to control the light when shooting indoors and how to add more light in Chapter 8.

A good video is incomplete without a stellar sound track. In Chapter 9 you'll learn how to record better audio with your camera. You'll also learn about essential equipment and workflows if you want to record the best sound possible.

The last three chapters describe what happens after you shoot. In Chapter 10 you'll learn how to organize and back up your footage so it's ready to edit. Chapter 11 walks you through the essentials involved in editing video. You'll still want to pick up some dedicated training for whatever nonlinear editing software you choose, but this chapter will help you understand the creative choices you'll need to make. The final chapter explores how to publish your video so others can see it. You'll learn how to target popular websites to share online and how to export a backup copy. Now, just turn the page to begin your journey to become a better videographer.

4





Exposure and Focus

When you start to get serious about shooting great-looking video on your DSLR, you'll likely begin to disable several of the automatic features on your camera. Additionally, you'll likely be attracted to the more artistic capabilities, like a wider range of contrast and shallow depth of field. Of course, these artistic options can quickly become frustrating limitations without a solid foundation of knowledge combined with a good deal of practice.

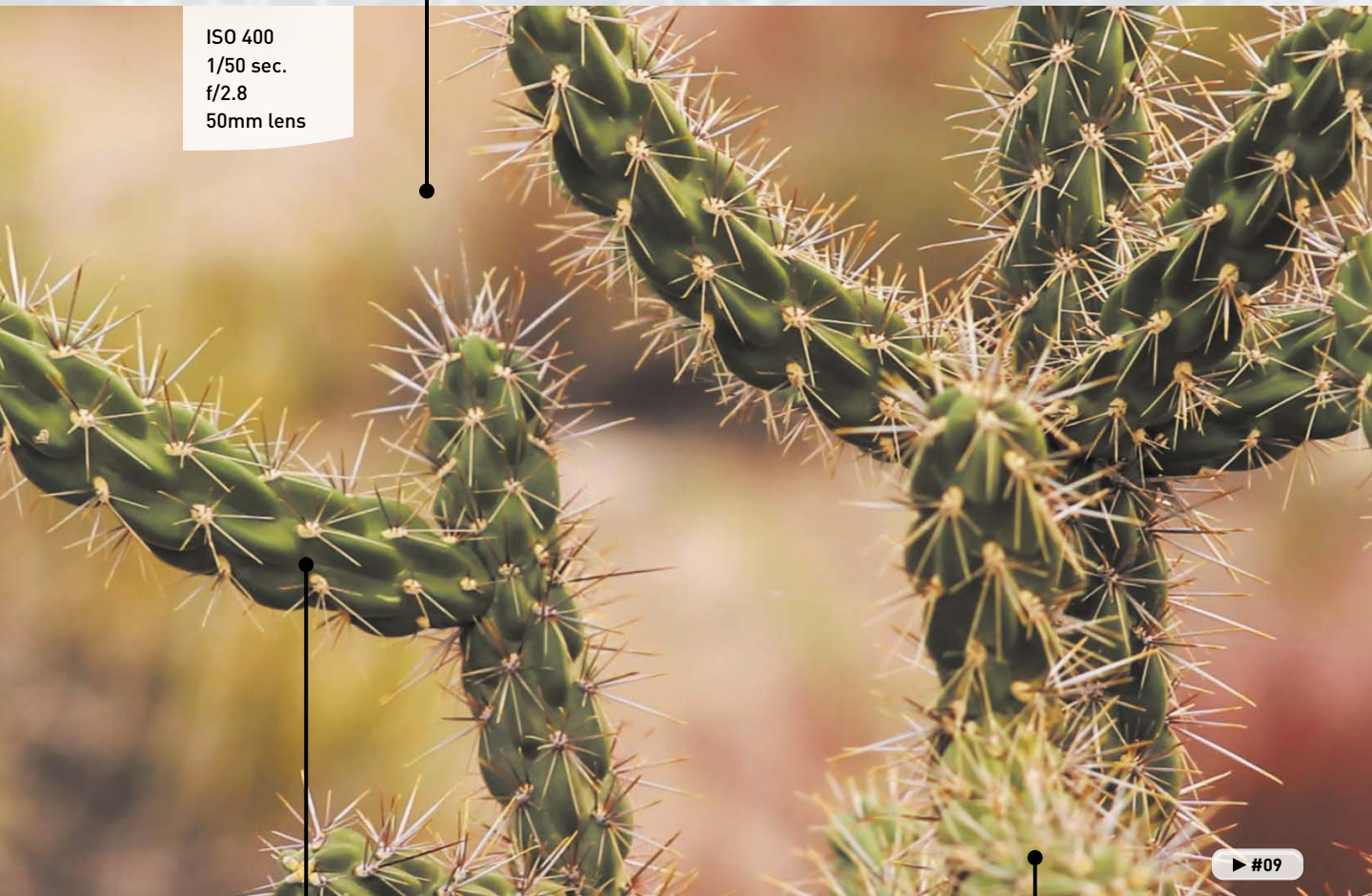
PORING OVER THE FOOTAGE

While shooting in the desert outside Albuquerque, New Mexico, I decided to capture the sunrise. Although the mountain range provided some interesting shots, I was drawn to the local vegetation. The light levels were a little low because I was shooting at dawn. So, instead of worrying about contrast levels in the camera, I shot “flat.” Making sure the image was in focus and exposed for the middle of the histogram, I was able to capture highlights *and* shadows. In postproduction, by using a Curves adjustment (see Chapter 11, “Editing Essentials”), boosting the contrast was easy and added a more dramatic *punch* to the image.



Opening up the aperture made the background go soft.

ISO 400
1/50 sec.
f/2.8
50mm lens



▶ #09

A Curves adjustment restored much of the contrast that had been lost in shadowy regions.

Curves also boosted the bright highlights.

PORING OVER THE FOOTAGE

Shooting against a bright sky is always tough, especially with video. Unlike with a raw photo, it's difficult to recover the highlights and lift the shadows. For this shot, I composed the shot so the sun was not in the frame. I then carefully metered the shot (by looking at my histogram on camera). I exposed so the tree and the sky were not over- or underexposed. This allowed me to darken the sky and lighten the tree in my editing application for a better end shot.

Image before
color correction.

ISO 100
1/60 sec.
f/11
28mm lens



A Vibrance adjustment brought out the colors in the image.



A slight lift to the shadow areas with a Curves adjustment.

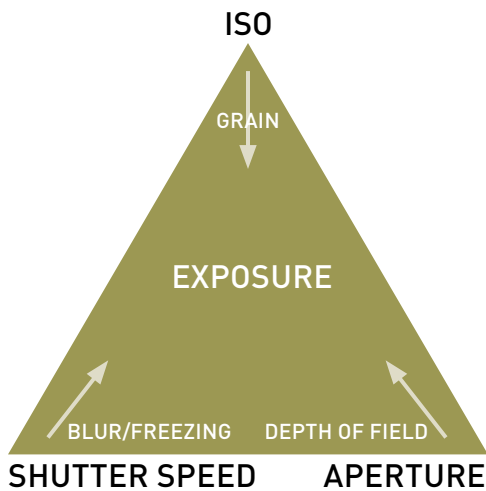


FIGURE 4.1

By combining the three primary elements of photography—ISO, aperture, and shutter speed—you can achieve proper exposure.

THE EXPOSURE TRIANGLE

An essential concept in photography is the exposure triangle (**Figure 4.1**). Three settings in your camera affect how your camera exposes an image: ISO, aperture, and shutter speed.

If you're used to shooting in Automatic mode, you may have never adjusted these properties. However, if you've used Aperture or Shutter Priority mode, you've started to dabble with manual control.

When shooting video, you'll likely need to shoot entirely in Manual mode and take precise control over all three properties to get the exposure you need. Even if you think you've mastered exposure for your DSLR when shooting stills, keep reading. Getting the correct exposure for video is more complicated because of video's limitations.

SHUTTER SPEED

The first property you'll set is the side of the triangle with the least flexibility. The shutter speed controls how long your camera stays open when you take a photo. It has a similar function in video because it greatly impacts how much light comes through. The shutter speed also controls the amount of motion blur in an image (**Figure 4.2**).

To simulate a filmic image, you need to use the optimum shutter angle to accompany the 24p frame rate in a DSLR. You can use this simple formula:

$$\text{one second} \div (\text{frame rate} \times 2)$$

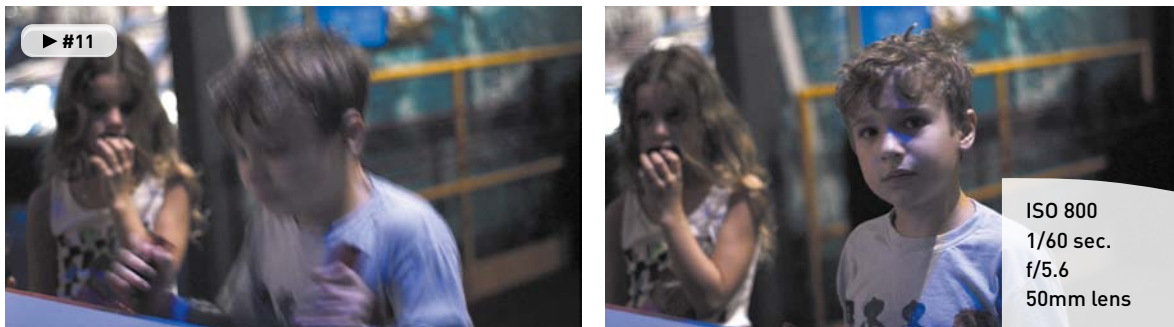


FIGURE 4.2

The camera was locked down on a tripod and properly exposed for this shot. When my son is moving quickly, the shutter speed emphasizes the motion blur; when he's moving slowly or holding still, he's much more in focus.

For example, when shooting 24 fps, you would set your light meter to a 1/48 second exposure time (you may only have 1/50 as a choice). At 30 fps, you would use 1/60 of a second. Following this guideline will help ensure that the motion blur created by the camera looks natural.

Can this rule be broken? Of course. There are two instances in which you will break this rule:

- If you want to take on a more stylized approach to your video, you can change the shutter speed. A long shutter speed creates more motion blur and streaking. A shorter speed creates more of a hyperaction look with staccato movements.
- If all else fails and you can't get the exposure you need, you can change the shutter speed to let more (or even less) light into the camera. However, this change should only be made after you've exhausted the available aperture and ISO options.

APERTURE

An easy way to think of aperture is as a window. The bigger the window, the more light you let into your camera (**Figure 4.3**). Easy enough, right? Of course, a lower number for the f-stop means a bigger opening (which can seem backwards at first).

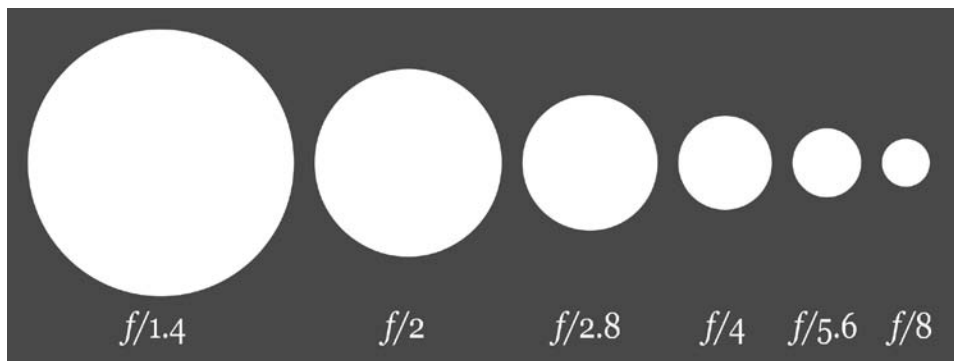


FIGURE 4.3
The lower the f-stop, the wider the aperture. A wider opening lets more light into your camera. Image from Wikimedia Commons. Image by Cbuckley and Dicklyon.

The advantage of having a lower f-stop means that you have more control over how much light gets into the camera. This sounds easy; just use the lowest number, right? Well, it's not that simple. Here are a few details to consider:

- The more you open the aperture, the shallower the depth of field. When shooting with an f/1.4 lens, you can literally have a person's nose in focus while the ears are out of focus.

- A lens with a lower f-stop is often more expensive. Most kit lenses have f-stops that range from f/4 to f/6. On the other hand, professional zooms can get as fast as f/2.8 and professional prime lenses (fixed focal length) can get even faster.
- Cheaper zoom lenses change their f-stop as you move through the zoom. This can lead to an exposure change in the middle of a video shot if you attempt to use the zoom options.

Typically, I'll use aperture as my first control for exposure. After I've locked in my ISO, I then adjust my aperture to achieve a proper exposure. Often, aperture can be used to control the depth of field in an image (how soon the image starts to go out of focus). For many, this shallow depth of field is a desirable aspect to shooting on a DSLR.

BUY AT LEAST ONE PRIME LENS

When you bought your DSLR, it probably came with a zoom lens that easily lets you get a wide range of coverage with just a quick twist of the wrist. So, why on earth would you go back in time and pick up a prime lens that only offers a single focal length?

It's all about aperture.

Most prime lenses (**Figure 4.4**) offer apertures that open as far f/1.2 to f/2. These wide openings let in a lot more light, which is truly useful when shooting in existing light or low-light environments.

Prime lenses are universally faster than zoom lenses and typically are much cheaper as well. This is due to the way the lenses are manufactured. Prime lenses have fewer moving parts and elements than zoom lenses.

Having a prime lens or two in your kit will really come in handy in the following situations:

- When you need to shoot in very low-light conditions
- When you want to shoot with a shallow depth of field to blur your background or give the video a more filmic look



FIGURE 4.4

The AF Nikkor 50mm f/1.8D lens from Nikon is an affordable prime lens for Nikon cameras. It also offers manual aperture and focus rings, which provide flexible controls while recording video.

ISO

Your camera has an ISO setting that controls how sensitive its sensor is to light. The lower the number, the less sensitive the sensor is. For most cameras, an ISO setting of 100 is considered the base setting. This ISO works well when shooting under bright lights or sunny days.

As lighting conditions change, you can bump up the ISO setting to 200 or 400 to deal with mixed lighting or overcast days. Higher ISO settings, like 800, 1250, and even 1600, can be used for nighttime and low-light shooting. Many newer DSLR cameras offer even higher ISO settings.

However, it's important to remember that cranking up the ISO is literally like turning up the volume. As the signal is amplified, the amount of visible noise increases (**Figure 4.5**). For still workflows, this noise can often be cleaned up with filters. For video, you're out of luck. Too much noise will result in a grainy image with dancing pixels. Be sure to test your camera and determine how high of an ISO setting you're comfortable using.



FIGURE 4.5

The noise becomes very visible in this low-light image. In this case, an ISO of 6400 was used; however, it produces an unusable image. Be careful not to boost your ISO too high when shooting in low light, or visible noise will ruin the shot.

A STAIR STEP PROBLEM

I've found that many cameras have ISO settings that often stair step each other. This means that the noisiness of the image can vary greatly between settings. If a particular ISO looks too noisy, try dialing down one (or even up one). Certain ISO settings on your camera will perform better than others; the only way to know is to test your camera. You can really only see the noise on a larger screen like your computer or a television.

CONTROLLING DEPTH OF FIELD

If you've watched feature films, commercials, or music videos closely, you'll notice that focus is often used creatively to control the viewers' attention. Sometimes the camera will start out of focus and then slowly roll into clarity to reveal a subject. Other times the camera might rack in-between a person in the foreground to then find a person farther in the background.

A driving force in the popularity of DSLR cameras for video is the image sensor superiority these cameras offer. The large sensors allow for greater control in depth of field. When used properly, your footage can take on more cinematic qualities.

WHAT IS BOKEH?

You've likely noticed that the way your camera blurs objects is different than how your eyes behave. In fact, there's actually a Japanese word for this stylized blurring. It's called bokeh (pronounced *boh-kay* or *boh-kuh*).

What's the big deal? Well, many find the use of blur appealing. It can also be quite useful when you want to keep the focus on your subject and let the background go soft. The blurring often appears most in the brightest areas of an image (such as headlights or small lights in a skyline). However, bokeh can be used to simplify just about any background.

There are two ways to easily create bokeh in an image:

- Using a prime lens or a very fast zoom lens, you can open up the lens wide. Using a low f-stop (typically f/2.8 or lower) can really bring out a bokeh blur (**Figure 4.6**).
- Using a longer (telephoto) lens, you can compress the action of your shot. Instead of being close to your subject, move farther back and zoom in. This can create isolation due to a shallow depth of field (**Figure 4.7**).

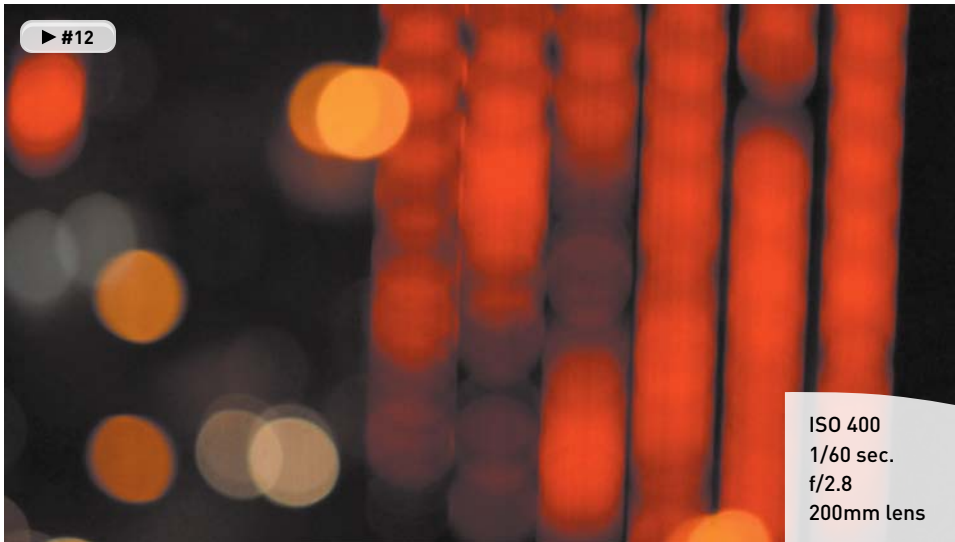


FIGURE 4.6
A theater marquee in San Jose, California, combined with passing traffic turns into an abstract shot when the camera is thrown far out of focus.



FIGURE 4.7
While hiking through a forest on Grand Bahamas I came across an intricate spider web. The scene was very low light, and my zoom lens was not very fast. By zooming all the way in from a greater distance, I threw the background out of focus and simplify it, which really helped the strands of the web to stand out.

THE IMPACT OF LIGHT AND MOTION ON FOCUS

The greatest challenge you'll face when shooting DSLR video is focus. Even top pros find focus tough when dealing with moving subjects (**Figure 4.8**) or a moving camera. In fact, on a professional movie set, there's often a focus-puller who is dedicated to helping with this complex task.

FIGURE 4.8

While shooting on an overcast day, the effect of motion on focus is easy to see. Faster moving subjects like the biker are the most out of focus, whereas stationary objects are clearer. For this image, the camera was also handheld, so the inherent image shake further softened the shot.



You'll need to learn how to balance exposure and movement while trying to maintain focus. If you're shooting subjects in motion, you'll need to pay close attention to how much light you have for the shot. The best option is to always try to have enough light available.

The less available light, the wider an aperture you'll need. The more you open the f-stop to let in light, the shallower the depth of field. This makes it more difficult to keep your subject in focus and can lead to subjects falling out of focus as they move (or the camera moves). We'll explore particular approaches to common problems in Chapters 6, 7, and 8.

FOREGROUND AND BACKGROUND

If you want to properly use bokeh or a shallow depth of field, you need to think about your foreground and background, and how you compose your shots. I'll explore composition in Chapter 5, "Composing Shots." For now, here are a few simple techniques you can try:

- When setting up an interview, portrait, or talking head, don't position the subject against a wall. Instead, look for a more open space. Try shooting in a long hallway, a conference room, or even just through a doorway. Stacking the scene works well to create depth (**Figure 4.9**).



FIGURE 4.9

Positioning my subject at the top of a staircase allowed me to compose the shot so there were areas in the background that stretched off into the distance (and became defocused).

- If you're shooting a large crowd or busy event, tweak the aperture settings on your camera. Open the aperture a bit and set your focus so the front of the group is in focus and the back starts out soft. As people move through the scene, they'll reveal themselves (**Figure 4.10**).
- If you're recording two people talking to each other, increase the distance between them. Then try using a zoom lens and adjust your zoom level to taste. This lens will make the two people appear close to each other but set one of the two more out of focus than the other.

By zooming in from a greater distance, as well as shooting at an angle, I created a well-defined focus plane for this shot. People farther away are out of focus but reveal themselves as they move towards the camera.



As you become more experienced, you'll want to try *rack focusing* (changing your focus from one object to another while recording). For example, you might want to go from a focused image to a blurry one as an animated transition. Or you might want to keep a moving subject in focus as the subject walks through a shot. Just keep in mind that rack focusing is not easy to do.

Modern lenses are actually more difficult to rack focus because lenses manufactured today are designed to autofocus more quickly. To do this, manufacturers set the lens so the focus ring only needs a small turn to move through all the focus positions. This feature is great for shooting stills because it's much faster to shoot when the camera is in control. But it makes it more difficult for video.

For this reason, I seek out older lenses for my video kit. Stopping into just about any local camera store, you'll find a used department with older prime lenses. Many of these lenses have focus rings that turn almost a full 360 degrees, which makes focusing by hand much easier because the ring is not as sensitive. If you can't find an older lens that matches your camera (often a problem for Canon shooters due to changes in the lens mount system), you can purchase an adapter ring. If your lens has physical rings to control both aperture and focus, you can use an adapter from companies like Fotodiox or Novoflex (**Figure 4.11**).



FIGURE 4.11
An older Nikon prime lens is attached to a newer Canon 7D using an adapter ring from Fotodiox. Lenses need manual aperture and focus rings to work properly with the adapters.

SETTING FOCUS

Knowing that you appreciate the role of focus (as well as the challenges associated with it), it's time to get practical. Making sure your shot is in focus is a critical step. Ideally, you'll check focus before you record. Trying to adjust focus in the middle of a shot can leave portions of your footage unusable.

TAKE A PICTURE

One of the easiest ways to make sure your footage is in focus is to let the camera do it for you. Most lenses support the ability to autofocus while still being manually adjusted. Hold down the camera's shutter release halfway to engage the autofocus ability. Doing this before you turn on your LCD's LiveView feature is usually fastest, but you can typically still do this once the LCD is active.

When you have focus, you can start recording. Better yet, shoot a still photo first. The image will be a much higher resolution, which can come in handy if you need to make physical prints. Additionally, the photo will capture useful metadata about the camera and lens settings that the video will not. A photo provides information about exposure, f-stop, aperture, ISO, shutter speed, and more. This is a great way to learn from your mistakes as well as successes.

ZOOM, ZOOM, AND CHECK

If you want to check focus, you need to take a few extra steps. Just turning on the LCD and glancing at it won't cut it. The small screen makes everything look more in focus because it can't show you all the pixels at once. The reduced image size creates the illusion of a sharper image.

If you want to really see what is in focus, you'll need to zoom, and then zoom some more. If you're using a zoom lens, zoom in as tight as possible on your subject. Zooming in on an area like the eyes works well; a button on a shirt works well too. You'll then need to digitally zoom.

Typically, you'll find a Zoom button (look for a magnifying glass with a plus symbol in it) on your camera. Pressing it will enlarge the image on your screen and only show you part of the image (**Figure 4.12**). You may need to use the command dial to navigate around the zoomed-in pixels. Find the detail area that you want to focus on.

FIGURE 4.12

Zooming in on your LCD can help you check focus before you roll a video shot.



You can then use the focus ring on your camera to tweak the focus. Make minor turns to find the ideal focus. If needed, adjust the aperture and ISO settings of your camera to refine the depth of field. When you're satisfied, you can either press the Zoom Out button or just press the Record button to roll the camera.

MAINTAINING FOCUS

If you're shooting a stationary subject from a stationary camera, focus is pretty dang easy. But when one object starts to move, it gets a bit more difficult. If both the subject and camera are set in motion, you begin playing a game of chase that often leaves the shot slightly soft with rack focuses as you try to find the subject clearly.

THE MYTH OF AUTOFOCUS

If you read the marketing materials that accompany most DSLR cameras, they promise useful autofocus features. Just turn on the intelligent tracking in your camera and the camera will lock on a face, follow your subject, and keep the subject in focus. Sounds great, right? In theory, yes.

Unfortunately, these controls are pretty useless in practice. Relying on autofocus will result in the camera making continuous adjustments. Chances are it will latch onto the wrong subject. Pan or tilt the camera just a little and suddenly the camera may start searching for focus.

Film and video professionals do not use autofocus when shooting video. Sure, it's fine to engage autofocus to lock in a clear shot before rolling, but don't expect the camera to maintain focus for you. It just doesn't work; even the best systems make your video look amateurish and jarring.

PRACTICING FOCUS

So how do you get shots that are in focus? The same way that you get great composition—practice, practice, practice. With time, you'll get the hang of things. Turning your focus ring will get easier with time. You'll master the small adjustments needed to smoothly transition between focus points.

Of course, there's nothing wrong with practicing a tough shot either. A film or video pro will often rehearse a complex shot, having the subject stand on certain marks or move through a location slowly. Additionally, don't be afraid to repeat a shot a few times. Getting multiple "takes" improves your chances of getting the right footage and gives you choices when you sit down to edit.

CHANGE YOUR F-STOP

The more you open your aperture, the more light you allow into the camera. That's good news when shooting in low light except that the depth of field gets shallower. If you're having a hard time focusing, close down the aperture. Switching to f/8 is immensely easier to focus than f/1.4.

Of course, making a change in aperture will dramatically change your exposure. To compensate, you can make these changes (which are in order of preference):

- **Add more light** to the scene. Use video or available lights, change locations, open the blinds, and so on. All of these actions will give you more light to work with.
- **Change your ISO** to increase the sensitivity of your camera. Many modern DSLR cameras can shoot at ISO 1200 or even 1600 without introducing too much noise.
- **Lower your shutter speed** to allow more light to reach your camera sensor. If you don't have a lot of action in the scene, switching from 1/50 or 1/60 to 1/30 will dramatically increase the light without much impact on image quality.

USING A LOUPE

As a still photographer, you're probably used to squinting into the small viewfinder for hours on end. The proper use of a viewfinder lets you accurately compose a shot. Most viewfinders also offer useful overlays to judge exposure and provide other technical information about the shot you're about to take.

Unfortunately, when shooting video on your DSLR, the viewfinder stops working because the camera's mirror must stay up when capturing video. I discussed the importance of the camera's LCD in Chapter 2, "Essential Equipment." A good LCD can go a long way, but the addition of one critical piece of gear—a loupe—can dramatically improve your ability to judge focus *and* exposure.

Several manufacturers sell loupes that magnify the image on the back of the LCD panel. The loupes typically enlarge the image two to three times, making it much easier to see critical focus (**Figure 4.13**). A loupe helps you see just how much of your shot is (or is not) in focus. Some viewfinders attach using a series of bands, whereas some attach to a snap on the frame. Others attach to the bottom of your camera or to the hot shoe plate on top (where an external flash would go). Each manufacturer takes its own approach and offers several compelling reasons to explain why its loupe is the best.



FIGURE 4.13
Here I'm using a Zacuto Z-Finder to better judge exposure and focus when shooting. The bright sun at the beach caused a lot of light pollution, which made seeing the camera's LCD unassisted more difficult.

Here are a few additional benefits to using a loupe:

- A loupe can block out light pollution, making it easier to judge exposure and contrast.
- A loupe can make the camera more stable by creating an additional point of contact with your eye. This can lead to less camera shake, especially for handheld shooting.
- Some viewfinders even contain a diopter, which can help adjust for minor vision issues or when an eyeglass wearing shooter takes off his glasses.

A good loupe costs between \$100 and \$400. The addition of a loupe can be thought of as investing in a lens for the back of your camera. Here are a few recommended manufacturers:

- **Zacuto Z-Finder.** www.zacuto.com
- **Hoodman Cinema Kit Pro.** www.hoodmanusa.com
- **LCDVF.** www.kinotehnik.com
- **Cavision MHE3Q-P.** www.cavision.com

A SWIVEL LCD

Your DSLR may offer a swivel LCD, which can be very useful when you're not holding the camera at eye level. For example, you can angle it downward when holding the camera over your head to shoot a concert or an event. When shopping for a camera, make sure the LCD has proper contrast and color fidelity when you hold the camera at an irregular angle.

USING A VIEWFINDER OR MONITOR

To truly see how your video looks, you'll want to look at it in a 1:1 viewing environment. In other words, one pixel in the footage file equals one pixel on a screen. This is pretty easy to do when you edit after shooting but takes some extra steps to do while shooting.

WHY MONITOR EXTERNALLY?

Even film and video professionals use external monitors when on set or on location. Other crewmembers, like the director, art director, or makeup artist, also need to check fine details in how the subject and sets look. In fact, the director of photography will often walk over and double-check that the shot is meeting the technical requirements for focus and exposure. After all, the LCD and built-in viewfinders of even professional cameras can too easily hide flaws in the video signal.

Your camera likely includes an HDMI port that's capable of sending out a high-quality digital signal. You can connect this port to a computer display, television, professional monitor, or electronic viewfinder to see what you're shooting on a larger or higher-resolution screen. This makes it much easier to judge focus and exposure.

USING A MONITOR

Many computer monitors and television sets include an HDMI port. This makes it convenient to use an off-the-shelf computer display or television for a relatively low cost, and by using the HDMI connection, you can see your image on a screen that is much larger than the camera's LCD. Although the color and exposure of these screens are not 100 percent accurate, they do provide better guidance on how the shot will look.

Many pros and serious enthusiasts also invest in a dedicated field monitor designed for DSLR video workflows. These are often lightweight (made from materials like aluminum) and measure 6–10 inches. Companies like Marshall Electronics and SmallHD offer battery-operated monitors that are designed to attach to a camera's hot shoe for easy mounting and use in the field. These monitors vary greatly in price and often offer professional features to help with focus and exposure via onscreen overlays.

GET A LONG CABLE

Make sure you get a very long HDMI cable or an extension cable. You'll want to avoid putting the camera's HDMI port under tension. Also, long cables are easier to snake out of the way to prevent any accidentally tripping, which can send both a person and a camera flying.

USING A VIEWFINDER

Most professional video cameras include a high-quality electronic viewfinder (EVF) for checking image quality while recording. These devices offer screens similar in size to a camera's LCD but use much higher-quality screens with denser pixels. As with a high-resolution screen (like a "retina display") on a smart phone, these screens make it much easier to see fine details.

High-quality EVF screens can often be combined with a loupe to create a truly professional monitoring solution (**Figure 4.14**). With a true viewfinder, you can clearly see exposure and focus. EVF screens often include easy-to-access buttons that turn on overlays to assist with exposure, focus, and composition.



FIGURE 4.14
The Zacuto Electronic Viewfinder, combined with Zacuto's loupe, creates a complete monitoring solution.

Although EVF screens are not cheap (typically ranging from \$400–\$800), they make a big difference in the type of video you shoot. I find that investing in a loupe and an EVF is comparable in price to buying a new lens. Spending money on the back of the camera often has a bigger impact on the quality of images you acquire than buying another lens for the front of your camera.

Chapter 4 Assignments

Learning how to master exposure and focus is the subject of several chapters in this book. When recording video with your DSLR, you'll find that these two technical hurdles can be quite challenging. Take the time to practice these skills repeatedly because you'll always find challenges ahead.

Experiment with the Exposure Triangle

Try different combinations of ISO, aperture, and f-stop with your camera in Manual mode. Attempt to achieve a proper exposure while experimenting with the depth of field options your camera offers.

Record a Shot with Bokeh

Set your camera's aperture as wide open as possible. Then try racking focus until you can create bokeh. When you have the basics down, move on to blurring a background while leaving a foreground subject in focus.

Manually Set Focus

Using the camera's LCD panel, set your zoom lens to magnify your subject. Then, using the Magnify buttons, increase the magnification on the LCD panel. Using the focus ring, try to manually focus your camera.

Share your results with the book's Vimeo group!

Join the group here: vimeo.com/groups/DSLRVideoFSTGS

Index

Numbers

32-bit operating system, 205
180 degree rule, 106
720p high-definition, 50, 51
1080p high-definition, 50, 51

A

AC adapter, 36
adapter rings, 80–81
add-on gear, 13–14
adjustable tension controls, 44
Adobe
 Media Encoder, 257
 Premiere Elements, 213, 256
 Premiere Pro, 205, 220–222
Advanced Video Coding High Definition (AVCHD) format, 28
AGC (Automatic Gain Control) option, 60–61, 180
Analyze clip feature, 230
angles
 composition and, 92–97
 from multiple cameras, 108
 for shooting video, 17
 types of, 101–103
aperture
 adjusting for video, 48–49, 60
 depth of field and, 22, 41, 84, 138–139
 features of, 38, 73–74
 focus and, 5, 23, 84
 prime lenses and, 74
 rings/manual control, 144–146
 zoom lenses and, 40
Aperture Priority mode, 59
Apple
 Compressor, 206, 255, 257
 iMovie, 212, 214, 256
 QuickTime, 203, 254, 256
archiving video data, 193
aspect ratio, 51
audio, recording
 adjusting levels, 60–61
 bit depth, 178
 dual system sound, 184–187
 guidelines, 176
 improving, 11, 14
 internal microphone, 180
 lavalier microphone, 181–182, 183
 microphone placement, 183
 microphone polar patterns, 179
 monitoring, 188–189
 on-camera microphone, 181
 sampling rate, 178
 setting channels, 177
audio syncing
 automatic, 226

DualEyes, 227
 manual, 223–225
audio transitions, 229
audio waveform, 223
audiometers, 189
auto filters, 231
auto white balance, 55, 57
autofocus, 83, 143
Automatic Gain Control (AGC) option, 60–61, 180
automatic video compression, 257
AVCHD (Advanced Video Coding High Definition) format, 28

B

background
 creating soft, 5, 7–8, 12, 139
 techniques for, 79–80
backing up footage
 card reader for, 193–194
 of finished project, 252
 hard drive for, 195–201
 organizing footage, 202–204
 transcoding option, 205–207
 transferring footage, 201–202
 workflow for, 192–193
backlight, for three-point lighting, 171
backup drive, 192
ball leveling, 44
batch processing, 256
batteries, 35–36
bit depth, 178
black drives, 199
blurring
 causes of, 78
 shutter speed and, 72–73, 150
 stylized. *see* bokeh
body size, camera, 26
bokeh. *see* shallow depth of field
brightness, LCD screen, 27
built-in syncing tools, 226
bus power, 194, 199
bust shot, 100

C

camera configuration
 assignments on, 65
 frame rate, 52–53
 frame size, 50–51
 Picture Styles/Controls, 61–64
 shooting mode, 59–60
 for shooting video, 48–49
 volume controls, 60–61
 white balancing, 55–59
camera settings
 depth of field and, 22, 41, 73–74, 84
 exposure and, 131–132
cameras
 LCD screen, 26–27
 prior investment in, 25

 recording format, 27–28
 recording length, 28–29
 sensor resolution, 30
 sensor size, 30–31
 size/weight of, 25–26
Canon
 EOS-1D X, 141
 EOS 5D Mark II, 141
 EOS 7D, 51, 62–63, 81
cardioid pickup pattern, 179
ceremonies, lighting at, 141
CF (CompactFlash) cards, 33
challenge, of video, 7
channels
 for recording audio, 177
 unwanted color and, 244, 245
chargers, 35–36
China Ball lanterns, 165
Cineform Studio/NeoScene, 206, 252
cinematic composition
 180 degree rule, 106
 eye line and, 104
 rule of thirds, 104–105
 sequencing shots, 106–107
clapboard, 186, 223
clapping hands, 187, 223
clips
 adding to tracks, 217–219
 selecting/loading, 216–217
close-up shot, 100
cloud coverage, 122
cloudy white balance preset, 56
color
 correction vs. grading, 236
 tools for adjusting, 230–236
 Vibrance adjustment, 71, 232
 video vs. photo, 54
color cast adjustment
 contrast repair, 243
 unwanted color, 244–246
 Vectorscope for, 242–243
Color Corrector effect, 234
color temperatures
 Hue wheel control of, 246
 indoor shots and, 163
 sunlight and, 118
 white balancing, 58, 118, 163–164
Common Media folder, 204
CompactFlash (CF) cards, 33
composition
 assignments on, 111
 cinematic, 103–107
 defined, 91
 multiple cameras for, 108
 repeating action, 108–109
 shot angles, 92–97, 101–103
 shot list, 110
 shot types, 98–100

- compression
 - automatic, 257
 - preview, 256
 - in recording format, 27–28
 - tools for, 255–257
 - video vs. photo, 54
- concerts, lighting at, 140
- connection port, for card reader, 194
- connectivity, portable drive, 199
- content/story review, 251
- contrast
 - creating, 8–9
 - Curves adjustment for, 68–69
 - for outdoor shots, 130–131
 - repairing, 243
- Controls, 61–64
- convenience, of DSLR cameras, 6
- cost consideration
 - choice of lens, 36, 41
 - compression tools, 256–257
 - DSLR value, 6
 - editing software, 212–213
 - electronic viewfinders, 88
 - fast zoom lenses, 142
 - lower f-stops, 74
 - tripod heads, 43
- Creative COW website, 215
- cropped sensors, 31, 32
- Curves adjustment
 - for contrast, 68–69
 - features of, 233
 - lifting shadows, 71, 131
 - underexposure and, 237–239
- Custom White Balance mode, 163–164
- customer support, editing software, 215

D

- data transfer
 - to backup/edit drives, 192
 - workflow, 201–202
- daylight-balanced lightbulbs, 166
- daylight shooting
 - assignments on, 133
 - challenges, 113
 - clouds and, 122
 - color correction for, 114–115
 - contrast for, 130–131
 - filters for, 132
 - lens flares, 123–126
 - location choice, 119–120
 - proper exposure, 131–132
 - sunlight issues, 116–122
 - underexposure and, 127
- daylight white balance preset, 56, 57
- depth of field
 - aperture settings and, 22, 41, 73–74, 84
 - control over, 7–8
 - in low lighting, 136–139

- sensor size and, 30–31
- shallow. *see* shallow depth of field
- Digital Photography Review, 38
- digital recorders. *see* external audio recorders
- dimmer, for fill light, 170
- diopter, 85
- direct sunlight white balance preset, 56, 57
- dragging technique, 217, 218
- drive speed, 198
- Drobo Pro external drive, 200
- dropping frames, 34
- DSLR video cameras
 - add-on gear, 13–14
 - aesthetic benefits, 7–9
 - assignments on, 19
 - drawbacks, 11–12
 - popularity, 6–7
 - technical benefits, 9–10
- dual mono audio system, 177
- dual system sound
 - advantages of, 184
 - dedicated recorder for, 185
 - smartphone application for, 185
 - syncing audio, 186–187
- DualEyes, Singular Software, 227
- Dutch angle shots, 103

E

- earbuds, monitoring audio and, 188–189
- edit drive, 192
- editing, nonlinear
 - adding transitions, 227
 - adjusting color/exposure, 230–236
 - assignments on, 247
 - automatic audio sync, 226
 - DualEyes syncing audio, 227
 - exposure problems, 237–241
 - fixing color casts, 242–246
 - importing media, 216
 - Insert edit for, 221–222
 - manual audio sync, 223–225
 - overview, 209–211
 - Overwrite edit for, 220–221
 - selecting/loading clips, 216–217
 - software choice, 212–215
 - targeting tracks, 217–218
- editing software
 - for backup copies, 252
 - cost, 212–213
 - customer support, 215
 - ease of use, 213
 - options, 214
 - supported file formats, 214
 - for viewing footage, 203
- electronic viewfinders, 87–88, 143
- emotional impact, of sequencing, 107

- equipment
 - AC adapters, 36
 - assignments on, 45
 - batteries/chargers, 35–36
 - camera features, 25–31
 - full-frame sensors, 30–31, 141
 - lens features, 36–41. *see also* lens(es)
 - loupes, 14. *see also* loupes
 - memory cards, 31, 33–34
 - monopods, 22–24
 - tripods, 14, 42–44, 114, 142–143
- ergonomics, camera, 25–26
- exposure
 - aperture setting and, 60
 - assignments on, 89
 - control over, 131–132
 - external monitors and, 86
 - fixing overexposure, 239–241
 - fixing underexposure, 237–239
 - loupes improving, 84–85
 - sunlight and, 119–120, 127–130
 - tools for adjusting, 230–236
 - viewfinders and, 87–88
 - zoom lenses and, 40
- exposure triangle
 - aperture in, 73–74
 - ISO in, 75
 - for low lighting, 144–145
 - overview, 72
 - shutter speed in, 72–73
- extension cables, 86
- external audio recorders
 - advantages of, 11, 14, 177
 - bit depth, 178
 - for dual system sound, 185
- external drives, 200
- external microphones, 11, 14, 181
- external monitors, 86
- eye level recording, 102
- eye line, 104
- eyedroppers, 244–246

F

- f-stops. *see* aperture
- Facebook, publishing on, 265–267
- facial details, key light and, 170
- Fast Color Corrector effect, 234
- feature-limited software, 205
- field monitors, 86
- file formats, 254–255
- fill light, 170–171
- filmic images, 8–9, 72, 74
- filters, 125, 132
- Final Cut Pro X
 - editing tool, 212, 220–222, 229, 230, 236
 - importing media, 216
 - transcoding and, 205, 206
- fine cut review, 251

- FireWire interface, 194, 196, 211
- fixtures, China Ball, 165
- Flash Video file format, 255
- flash white balance preset, 56, 57
- Flat option, in Picture Styles, 63–64
- flesh tone line, 243
- flexibility, LCD screen, 27
- fluid-head tripods
 - features of, 14
 - for low-light shots, 143
 - selection of, 43–44
- fluorescent lights, 166, 168–169
- fluorescent white balance preset, 56
- focal lengths, 32, 39, 40
- focus
 - aperture settings and, 23, 60, 138–139
 - assignments on, 89
 - challenges, 12
 - external monitors and, 86
 - light/motion impacting, 78
 - loupes and, 84–85
 - for low lighting, 143
 - maintaining, 83–84
 - manual, 143
 - rack focusing, 80–81
 - setting, 81–82
 - shallow depth of field, 76–77, 79–80
 - viewfinders and, 87–88
- footage
 - backing up. *see* backing up footage
 - Common Media folder, 204
 - importing, 216
 - selecting, 203
 - transferring, 192, 201–202
 - viewing, 203
- foreground, 79–80
- Fotodiox, 80–81
- frame rates, 52–53
- frame size, 50–51
- framing subjects, 104–105, 135
- full-frame sensors, 30–31, 141
- Full HD, 50, 51

G
getting coverage, 98

H
H.264 file format, 28, 254, 255
handles, 18, 228–229
hard drives

- editing and, 218
- external, 200
- importance of, 195
- interface types, 196–197
- internal, 199
- portable, 198–199
- speed, 198

- HDMI cables, 86
- headphones, 188–189

- heads, tripod, 43–44
- height, tripod, 44
- Hi-Speed USB 2.0, 197
- high angle shots, 102
- high-definition (HD) video formats, 50–51
- highlights, 69, 70, 127, 130
- histograms, 127–129
- hood, for lens protection, 124–125
- HTML5 file format, 254
- Hue wheels, 244, 246
- hypercardioid microphone pickup pattern, 179

I
incandescent white balance preset, 56, 57
indoor shooting

- additional lighting, 164–169
- adjustments for, 160–161
- assignments on, 173
- available lighting, 162–163
- information sources, 172
- overview, 157–159
- three-point lighting, 170–172
- white balancing, 163–164

- Insert edit command, 221–222
- interface types, hard drive, 196–197
- internal drives, 199
- internal microphone, 180
- intervalometer, 154
- investment, on camera, 25
- ISO settings
 - adjusting for video, 48–49
 - changing for focus, 84
 - dedicated button for, 147
 - high, for low-light shots, 136–137
 - raising for low lighting, 146–147
 - testing upper limits, 148–149
 - visible noise and, 75

J
JPEG files, 54

K
Kelvin scale, 118
key light, 170
kilohertz (kHz), 178
Kino Flo fluorescent lights, 168, 169

L
Lanternlock fixture, 165
lavalier microphone, 181–182, 183
LCD screens

- criteria for, 26–27
- loupes and, 84–85
- swivel, 85

- LED lights, 167–168
- lens flares
 - blocking light, 125–126
 - causes of, 123–124
 - filters and, 125

- hood protection, 124–125
- positioning and, 126, 127

lens(es)

- aperture, 38. *see also* aperture
- clean, 125
- focal length, 32, 39, 40
- for low lighting, 141–142, 144
- manufacturers, 36–38
- used, 41, 80–81
- zoom vs. prime, 40–41, 74

- Levels adjustment, 232, 239–241
- Lexar memory card reader, 193
- light. *see also* sunlight
 - backlight, 171
 - fill, 170–171
 - for focus, 78, 84
 - for indoor shots, 162–164
 - key, 170
 - loupes and, 85
 - low, 10
 - temperatures, 58, 118, 163
- lights
 - China Ball lanterns, 165
 - fluorescent, 168–169
 - overhead, 164
 - practical, 164
 - professional, 169
 - reflector clamp, 166
 - shop/work, 166
- Live View function, 26, 35, 163–164
- location, daylight shots and, 119–120
- long-term storage, 193
- loupes
 - focus/exposure and, 14, 84–85
 - low lighting and, 143
 - outdoor shots and, 130
 - viewfinders with, 87–88
- low-light shooting
 - adjusting for, 136–139
 - assignments on, 155
 - common scenarios, 140–141
 - with DSLR cameras, 10
 - equipment, 141–143
 - lowering f-stop, 144–146
 - overview, 135
 - raising ISO, 146–149
 - shadows and, 151
 - shutter speed adjustments, 150–151
 - sunrise/sunset, 152–153
 - time-lapse photography, 154

M
manual aperture ring, 145–146
Manual mode, 59–60, 72, 143
manually set white balance, 56, 58
manufacturers

- audio recorder, 185
- lens, 36–38
- professional lighting, 169
- tripod head, 44

- master shot, 98
- material, tripod leg, 44
- medium close-up (MCU) shot, 100
- medium shot (MS), 99
- medium wide shot (MWS), 99
- megapixel count, 30, 54
- memory cards
 - format, 33–34
 - function of, 31
 - mounting, 192
 - need for, 11–12
 - number of, 33
 - reader for, 193–194
 - speeds, 34
- microphone(s)
 - external, 11, 14, 181
 - internal, 180
 - lavalier, 181–182, 183
 - on-camera, 181
 - placement, 183
 - polar patterns, 179
 - rub, 183
 - shotgun, 176, 179, 181
- Microsoft
 - Expression Encoder/Expression Encoder Pro, 257
 - Windows FAT32 file system, 28
 - Windows Media file format, 255
- monitors, 86, 217–219
- mono audio system, 177
- monopod, 22, 23, 24
- motion
 - blurring, 72–73, 78, 150
 - impact on focus, 78
 - sequencing of, 15–16
 - shutter speed and, 72–73, 150
 - zooming in, 98
- Motion JPEG format, 28
- MPEG-4 file format, 254, 255
- MPEG Streamclip, 206, 257
- MS (medium shot), 99
- multichannel audio system, 177
- multiple cameras, 108
- multiple slots, in card reader, 194
- museums, lighting at, 141
- MWS (medium wide shot), 99

N

- National Television System Committee (NTSC) standards, 53
- neutral (ND) density filter, 125, 132
- Neutral option, Picture Styles, 63–64
- nifty-fifty lenses, 39, 142
- night shooting, outdoor, 141
- Nikon
 - D7000 frame rates, 53
 - full-frame sensor, 141
 - NIKKOR lenses, 142
 - older prime lenses, 81

- Picture Styles options, 62–63
- prime lens, 74
- noise
 - ISO settings and, 75, 148–149
 - minimizing, 176
- nonlinear editing, *see* editing, nonlinear
- NTSC (National Television System Committee) standards, 53

O

- older prime lens, 81
- older software, 205
- omnidirectional pickup pattern, 179
- on-camera microphone, 181
- online video, 253–257
- operating system, for viewing footage, 203
- original equipment manufacturer (OEM) lenses, 36–38
- outdoor shooting
 - daylight and, *see* daylight shooting
 - at night, 141
- over-the-ear headphones, 188–189
- overcranking, 53
- overexposure, 119, 127–130
- overhead lights, 164
- overhead shots, 103
- Overwrite edit command, 220–221

P

- paper lanterns, 165
- pasting technique, 217
- patch panel interface, 217
- performances, lighting at, 140
- Phase Alternating Line (PAL) standards, 53
- Photo JPEG format, 28
- photography tripods, 43, 44
- photos
 - in setting focus, 81
 - videos vs., 54, 130–131
- Picture Styles, 61–64
- PluralEyes, Singular Software, 226
- polar (pickup) patterns microphone, 179, 183
- popularity, of DSLR cameras, 6–7
- portable drives, 198–199
- portable Super-Speed USB 3.0, 198
- positioning
 - for composition, 108
 - lens flares and, 126, 127
 - shop lights, 166
- power, 35–36
- practical lights, 164
- practice, in focusing, 83
- presets
 - in compression tools, 255
 - white balance, 55–57
- prime lenses, 41, 74, 142, 144

- Pro Audio To Go application, 185
- Program shooting mode, 59

Q

- quality checks, 250–251
- Quick Look option, 203
- Quick Preview feature, 203

R

- rack focusing, 80–81
- recording devices, *see* external audio recorders
- recording formats, 27–28
- recording length limitations, 28–29
- recording sound, *see* audio, recording
- Redundant Array of Independent Disks (RAID) configuration, 195, 200, 211, 218
- reference image, for white balance, 58–59
- reflections, 160, 161
- reflector, 121
- reflector clamp light, 166
- repeating scenes, 18, 108–109
- resolution, 27, 30, 54
- resources, 172, 270
- Rode VideoMic Pro, 181
- Rogue FlashBender, 126
- rough cut review, 251
- rule of thirds, 104–105

S

- safety issues, 165, 166
- sampling rate, 178
- scoops, 166
- Secure Digital (SD) cards, 33–34
- selects, 203, 204
- sensor(s)
 - cropped, 31, 32
 - full-frame, 30–31, 141
 - resolution, 30
 - size, 30–31
- Serial ATA (SATA) interface, 197, 218
- server-class drives, 199
- shade white balance preset, 56, 57
- Shadow/Highlight adjustment, 130, 231
- shadows
 - Curves adjustment, 71, 131
 - fill light for, 170–171
 - preserving, 161
 - sunlight and, 116–117, 119–120, 122
 - utilizing, 151
- shakiness, 40
- shallow depth of field
 - challenge of, 12
 - for close-ups, 100
 - creating, 76–77
 - desirability of, 4, 7, 30, 38
 - foreground/background, 79–80
 - for framing, 41, 135

- shop lights, 166
- shotgun microphones
 - polar patterns of, 179
 - pros and cons of, 181
 - recording with, 176
- shots
 - list of, 110
 - sequencing, 106–107
 - types of, 98–100
- Shutter Priority shooting mode, 59
- shutter speed
 - adjusting for video, 48–49, 60
 - guidelines, 72–73, 151
 - for low lighting, 150–151
 - lowering for focus, 84
 - unique adjustments, 151
- Singular Software, 226, 227
- size
 - camera, 26
 - LCD screen, 26–27
 - sensor, 30–31
 - video, 253
- slate application, 187, 223
- sliding base plates, 44
- slow-motion effects, 53
- slow processors, 205
- smartphone application, 185
- softbox diffuser, 170
- software tools, for transcoding, 206
- Source Monitor, 217–219
- speed(s)
 - card reader, 194
 - hard drive, 198
 - memory card, 34
 - portable drive, 199
- spread bar, 44
- stability
 - loupes and, 85
 - shoulder rigs and, 136
 - tripods and, 14, 44, 114, 142–143
- standard-definition video format, 50, 51
- Standard option, Picture Styles, 60, 63–64
- stereo audio system, 177
- Sun Seeker: 3D Augmented Reality Viewer, 120, 121
- sunlight. *see also* daylight shooting
 - bouncing, 121
 - challenges of, 116–117
 - color temperatures and, 118, 163
 - explained, 117
 - location and, 119–120
 - tracking, 120–121
- sunrise/sunset, lighting at, 141, 152–153
- Super-Speed USB 3.0, 197, 198
- surround sound, 177
- swivel LCD screen, 85
- sync-sound audio track, 224–225

- synchronizing audio
 - automatically, 226
 - DualEyes for, 227
 - in field, 186–187
 - manually, 223–225

T

- tapeless workflow, of DSLR cameras, 11–12
- Technicolor CineStyle, 62
- temperature, color, 58, 118, 163
- tension controls, adjustable, 44
- third-party codecs, 252
- third-party lenses, 36, 38
- three-point editing, 218–219
- three-point lighting, 170–172
- three-stage tripods, 44
- Three-Way Color Corrector, 235
- time-lapse photography, 154
- Timeline, 218–219
- timing, shooting video and, 17–18
- transcoding
 - minimizing, 206–207
 - need for, 205
 - software tools, 206
- transitions
 - handles for, 228–229
 - video/audio, 229
- tripods
 - fluid head for, 43–44, 143
 - low lighting and, 140, 142–143
 - need for, 42
 - photo head vs. video head, 43
 - selection of, 44
 - stability of, 14, 114, 142–143
- tungsten white balance preset, 56
- Twitter, 268–269
- two-stage tripods, 44

U

- Ultra Direct Memory Access (UDMA)
 - rating, 34
- underexposure, 127–130, 237–239
- Universal Serial Bus (USB) interface, 197
- used lenses, 41, 80–81, 144
- used professional lighting equipment, 169
- UV filters, 125

V

- variable ND filter, 132
- Vectorscope, 242–243
- vendors, China Ball lantern, 165
- Vibrance adjustment, 71
- video compression. *see* compression
- video footage. *see* footage
- video publishing/sharing
 - backup copy, 252
 - feedback and, 249–250, 251

- quality checks, 250–251
 - for Web viewing. *see* web video files
- video quality vs. photo quality, 54, 130–131
- video transitions, 229
- video tripod heads, 43
- viewfinders, 14, 87–88, 130
- Vimeo, 262–265
- visual interest, of sequencing, 106
- Vivid option, Picture Styles, 63–64
- Vivitar prime lens, 144
- volume controls, 60–61

W

- wall power, 36
- web video files
 - compression tools for, 255–257
 - Facebook hosting, 265–267
 - file format for, 254–255
 - overview, 253
 - Twitter hosting, 268–269
 - Vimeo hosting, 262–265
 - YouTube hosting, 259–262
- weddings, lighting at, 141
- weight, camera, 26
- Westcott Spiderlite, 168, 169
- white balance
 - automatic, 55
 - color temperatures for, 58, 118, 163–164
 - for indoor shots, 163–164
 - manually setting, 56, 58
 - presets, 55–57
 - reference image for, 58–59
- wide shot (WS), 99
- work lights, 166
- workflow
 - data transfer, 201–202
 - footage organization, 204
 - video project, 192–193

X

- XLR audio connector, 182

Y

- YouTube, publishing to, 259–262

Z

- Zacuto Z-Finder, 85
- Zoom H4n recorder, 185
- zoom lenses
 - features of, 40
 - lens flares in, 124
 - in low lighting, 142, 146
- zooming in, 82, 98