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In Full Color

Canon® EOS® Rebel T7/2000D

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Get started with automatic and shooting modes

Take full control of exposure to achieve better results

Understand the settings that control focus and color

Julie Adair King
Bestselling author of *Digital Photography For Dummies*

Canon® EOS® Rebel T7/2000D

by Julie Adair King

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Canon® EOS® Rebel T7/2000D For Dummies®

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Introduction

In 2003, Canon revolutionized the photography world by introducing the first digital SLR camera (dSLR) to sell for less than $1,000, the EOS Digital Rebel/300D. The camera delivered exceptional performance and picture quality, earning it rave reviews and multiple industry awards. No wonder it quickly became a best-seller.

That tradition of excellence and value lives on in the EOS Rebel T7/2000D. Like its ancestors, this baby offers a range of controls for experienced photographers plus an assortment of tools designed to help beginners be successful. For added fun, this Rebel offers some cool Wi-Fi functions, including one that enables you to send pictures wirelessly to a smartphone or tablet and to use that device as a camera remote control.

In fact, the T7/2000D is so feature-packed that sorting everything out can be a challenge. For starters, you may not even know what SLR means, let alone have a clue about what all the menu options and other camera features do. If you're like many people, you may be so overwhelmed that you never take your camera out of automatic shooting mode, which is a shame because you can enjoy so much more creativity and success by moving beyond auto.

Therein lies the point of *Canon EOS Rebel T7/2000D For Dummies.* In this book, you can discover not only what each bell and whistle on your camera does but also when, where, why, and how to put it to best use. And unlike many photography books, this one doesn't require any previous knowledge of photography or digital imaging to make sense of concepts. In classic *For Dummies* style, everything is explained in easy-to-understand language, with lots of illustrations to help clear up any confusion.

In short, what you have in your hands is the paperback version of an in-depth photography workshop tailored specifically to your Canon picture-taking powerhouse. Whether your interests lie in taking family photos, exploring nature and travel photography, or snapping product shots for your business, you'll get the information you need to capture the images you envision.

How This Book Is Organized

This book is organized into four parts, each devoted to a different aspect of using your camera. Although chapters flow in a sequence that's designed to take you from absolute beginner to experienced user, I also tried to make each chapter as self-standing as possible so that you can explore topics that interest you in any order you please. The next sections offer a brief preview of what you can find in each of the four parts.

Part 1: Fast Track to Super Snaps

This part contains chapters that help you get up and running:

- Chapter 1 offers a brief overview of camera controls and walks you through initial setup and customization steps.
- Chapter 2 explains basic picture-taking options, such as shutter-release mode, image quality settings, and flash features.
- Chapter 3 shows you how to use the camera's simplest exposure modes, including Scene Intelligent Auto, Creative Auto, and scene modes (Portrait, Sports, Close-up, and so on).

Part 2: Taking Creative Control

Chapters in this part help you unleash the full creative power of your camera, showing you how to adjust exposure, color, and focus and also how to take advantage of movie-recording features.

- Chapter 4 covers the all-important topic of exposure, helping you to understand such fundamentals as f-stops and shutter speed and also exploring ways to deal with exposure problems.
- Chapter 5 explains your camera's focusing features and shows you how to manipulate depth of field (the distance over which focus appears sharp in a photograph).
- Chapter 6 details your camera's color controls, including the White Balance and Picture Style options.

- Chapter 7 provides a quick-reference guide to shooting strategies for specific types of pictures: portraits, action shots, landscape scenes, and close-ups.
- Chapter 8 explains how to record and play movies.

Part 3: After the Shot

As its title implies, this part discusses things you can do (or should do) with your photos after you capture them.

- Chapter 9 covers picture playback features, including options for customizing what you see on the screen in playback mode. I also explain how to understand exposure-evaluation tools known as *histograms.*
- Chapter 10 explains how to rate, protect, and delete photos and then helps you transfer pictures from your camera to your computer. This chapter also introduces you to the free Canon photo software and discusses ways to process files that you shoot in the Raw format and prepare pictures for online sharing. Skip to the end of the chapter to find out how to connect your camera wirelessly to a smartphone or tablet and then transfer images to that device.

Part 4: The Part of Tens

In famous *For Dummies* tradition, the book concludes with two top-ten lists containing additional bits of information.

- Chapter 11 reveals ten ways to customize your camera that aren't covered in earlier chapters.
- Chapter 12 takes a look at ten features that, though not found on most "Top Ten Reasons I Bought My Camera" lists, are nonetheless interesting, useful on occasion, or a bit of both.

Beyond the Book

When you have a minute or two to go online, visit `www.dummies.com` and enter the text "Canon EOS Rebel T7/2000D For Dummies Cheat Sheet" in the search box. Along with information about the book, you should find a link to a Cheat Sheet, which provides a handy reference guide to important camera settings and terms. You can print the Cheat Sheet and carry it in your camera bag or download it so that you can read it even if you don't have Internet access.

Icons Used in This Book

Like other books in the *For Dummies* series, this book uses the following icons to flag especially important information:

A Tip icon flags information that will make your life easier. You'll save time, effort, money, or other valuable resources, including your sanity.

This icon highlights important information that's especially worth storing in your brain's long-term memory or to remind you of a fact that may have been displaced from that memory by another pressing fact.

If I present a detail that's useful mainly for impressing your geeky friends (but otherwise not critical for you to retain), I mark it with this icon.

When you see this icon, look alive. It indicates a potential danger zone that can result in much wailing and teeth-gnashing if it's ignored.

Additionally, replicas of some of your camera's buttons and onscreen graphics appear in the margins and in some tables. I include these images to provide quick reminders of the appearance of the button or option being discussed.

Where to Go From Here

To wrap up this preamble, I want to stress that if you think that digital photography is too confusing or too technical for you, you're in good company. *Everyone* finds this stuff a little mind-boggling at first. Take it slowly, exploring just one concept at a time. Then make it a point to experiment with a new camera feature or photography skill on each photo outing.

With patience and practice, you'll soon wield your camera like a pro, dialing in the necessary settings to capture your creative vision almost instinctively. Your Rebel T7/2000D is the perfect partner for your photographic journey, and I thank you for allowing me, in this book, to serve as your tour guide.

1 Fast Track to Super Snaps

IN THIS PART . . .

Familiarize yourself with the basics of using your camera, from attaching lenses to navigating menus.

Find out how to select the exposure mode, Drive mode, and Image Quality (resolution and file type), and monitor important settings while shooting.

Discover options available for flash photography.

Get step-by-step help with shooting your first pictures in Scene Intelligent Auto mode.

Take more creative control by using scene modes and Creative Auto mode.

IN THIS CHAPTER

- Preparing the camera for its first outing
- Getting acquainted with camera features
- Viewing and adjusting camera settings
- Setting a few basic preferences

Chapter 1
Getting Up and Running

If you're like many people, shooting for the first time with a dSLR (digital single-lens reflex) camera produces a blend of excitement and anxiety. On one hand, you can't wait to start using your new equipment, but on the other, you're a little intimidated by all its buttons, dials, and menu options.

Well, fear not: This chapter provides the information you need to start getting comfortable with your Rebel T7/2000D. The first section walks you through initial camera setup. Following that, you can get an overview of camera controls, discover how to view and adjust camera settings, work with lenses and memory cards, and get my take on some basic setup options.

Preparing the Camera for Initial Use

After unpacking your camera, you need to assemble a few parts. In addition to the camera body and the supplied battery (be sure to charge it before the first use), you need a lens and a memory card. Later sections in this chapter provide details about lenses and memory cards, but here's what you need to know up front:

- **Lens:** Your camera accepts Canon EF and EF-S model lenses. The 18–55mm kit lens sold as a bundle with the camera body falls into the EF-S category. If you want to buy a non-Canon lens, check the lens manufacturer's website to find out which lenses work with your camera.

» **SD (Secure Digital), SDHC, or SDXC memory card:** The SD stands for *Secure Digital;* the HC and XC for *High Capacity* and *eXtended Capacity.* The different labels reflect how many gigabytes (GB) of data the card holds. SD cards hold less than 4GB; SDHC, 4GB to 32GB; and SDXC, greater than 32GB.

With camera, lens, battery, and card within reach, take these steps:

1. **Turn the camera off.**
2. **Attach a lens.**

   First, remove the caps that cover the front of the camera and the back of the lens. Then locate the proper *lens mounting index* on the camera body. Your camera has two of these markers, one red and one white, as shown in Figure 1-1. Which marker you use to align your lens depends on the lens type:

   - *Canon EF-S lens:* The white square is the mounting index.
   - *Canon EF lens:* The red dot is the mounting index.

   FIGURE 1-1:
   Align the mounting index on the lens with the one on the camera body.

   Your lens also has a mounting index; align that mark with the matching one on the camera body, as shown in Figure 1-1, which features the 18–55mm EF-S lens. Place the lens on the camera mount and rotate the lens toward the lens-release button, labeled in the figure. You should feel a solid click as the lens locks into place.

3. **Install the battery and memory card into the compartment on the bottom of the camera.**

   Hold the battery with the gold contacts facing down and the Canon label oriented toward the back of the camera. Then slide it into the compartment and gently push it in until the battery-release switch closes. I labeled the switch in Figure 1-2. (To remove the battery, you must push the release switch.)

   Orient the memory card as shown in Figure 1-2. (The label faces the back of the camera, and the notched corner of the card goes in first.) Push the card gently into the slot and close the cover.

4. **Turn the camera on and adjust the settings.**

When you power up the camera for the first time, the monitor displays a screen asking you to set the date, time, and time zone. To adjust the values on the screen, use the Set button and the four keys surrounding it — known as *cross keys.*

Press the left or right cross keys to highlight an option box; press Set to activate the box. Press the up/down keys to change the value in the box and then press Set again. Lather, rinse, and repeat until you adjust all the settings. Highlight the OK box and press Set.

FIGURE 1-2:
Insert the memory card with the label facing the back of the camera.

5. **Adjust the viewfinder to your eyesight.**

Tucked above the right side of the rubber eyepiece that surrounds the viewfinder is a dial that enables you to adjust the viewfinder focus to accommodate your eyesight. Officially known as a *diopter adjustment dial,* it's highlighted in Figure 1-3.

FIGURE 1-3:
Rotate this dial to set the viewfinder focus for your eyesight.

WARNING

If you don't take this step, subjects may appear sharp in the viewfinder when they aren't actually in focus, and vice versa.

Here's how to properly adjust the viewfinder: Remove the lens cap, look through the viewfinder, and press the shutter button halfway to display data at the bottom of the viewfinder. Then rotate the diopter adjustment dial until the data appears sharpest. The markings in the center of the viewfinder, which relate to autofocusing, also become more or less sharp. (In dim lighting, the built-in flash may pop up when you depress the shutter button halfway; just close the flash unit after you complete the viewfinder adjustment.)

DECODING CANON LENS TERMINOLOGY

When you shop for Canon lenses, you may encounter these lens specifications:

- **EF and EF-S:** EF stands for *electro focus;* the S stands for *short back focus.* And *that* simply means the rear element of the lens is closer to the sensor than with an EF lens. The good news is that your T7/2000D works with both of these Canon lens types. However, you can't put an EF-S lens on Canon cameras that have only an EF mount, which include current high-end, full-frame camera bodies.
- **IS:** Indicates that the lens offers *image stabilization,* a feature that helps prevent blur that can result from camera shake when you handhold the camera.
- **STM:** Refers to *stepping motor technology,* an autofocusing system that's designed to provide smoother, quieter autofocusing.

That's all there is to it — the camera is now ready to go. From here, I recommend that you keep reading the rest of this chapter to familiarize yourself with the main camera features. But if you're anxious to take a picture right away, I won't think any less of you if you skip to Chapter 3, which guides you through the process of using the camera's automatic shooting modes. Just promise that at some point, you'll read the pages in between, because they actually do contain important information.

Exploring External Camera Features

If you're new to dSLR photography, some aspects of using your camera, such as working with the lens, may be unfamiliar. But even if you've used a dSLR before, it pays to spend time before your first shoot with a new camera to get familiar with its controls. To that end, the upcoming pages provide an overview of external bells and whistles.

Topside controls

Your virtual tour begins on the top of the camera, shown in Figure 1-4. Here's a guide to the many bits and pieces found there, starting in the upper-right corner and traveling clockwise:

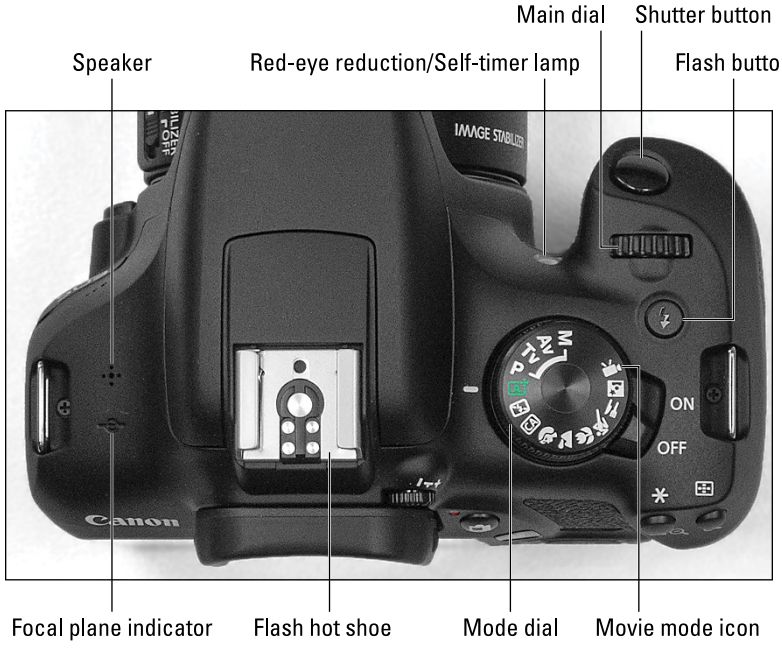

FIGURE 1-4: Here's a guide to controls found on top of the camera.

- **Red-eye reduction/Self-timer lamp:** When you set your flash to Red-Eye Reduction mode, this lamp emits a brief burst of light prior to the real flash — the idea being that your subjects' pupils will constrict in response to the light, thus lessening the chances of red-eye. If you use the camera's self-timer feature, the lamp lights during the countdown period before the shutter is released. See Chapter 2 for more details about Red-Eye Reduction flash mode and the self-timer function.

TIP

- **Shutter button:** You no doubt already understand the function of this button. But you may not realize that when you use autofocus and autoexposure, you need to use a two-stage process when taking a picture: Press the shutter button halfway, pause to let the camera set focus and exposure, and then press the rest of the way to capture the image. You'd be surprised how many people mess up their pictures because they press that button with one quick jab, denying the camera the time it needs to set focus and exposure. The beep you may hear is the camera telling you it was able to focus and is ready to take the photo.
- **Main dial:** You use this dial when selecting many camera settings. (Specifics are provided throughout the book.) In fact, this dial plays such an important role that you'd think it might have a more auspicious name, but Main dial it is.
- **Flash button:** Press this button to raise the built-in flash in the advanced exposure modes (P, Tv, Av, and M).

- **On/Off switch:** I won't insult your intelligence by explaining what this switch does. But note that even when the switch is in the On position, the camera automatically goes to sleep after 30 seconds of inactivity to save battery power. You can adjust this timing via the Auto Power Off option on Setup Menu 1.
- **Mode dial:** Rotate this dial to select an *exposure mode,* which determines whether the camera operates in fully automatic, semi-automatic, or manual exposure mode when you take still pictures. To shift to Movie mode, rotate the dial so that it aligns with the movie mode icon, labeled in Figure 1-4. Chapter 2 provides an overview of the still photography exposure modes; Chapter 8 covers movie recording.
- **Viewfinder diopter-adjustment dial:** Use this dial (shown close-up in Figure 1-3) to adjust the viewfinder focus to your eyesight.
- **Flash hot shoe:** This is the connection for attaching an external flash and other accessories such as the GP-E2 GPS Receiver.

TECHNICAL STUFF

- **Focal plane indicator:** The *focal plane indicator* marks the plane at which light coming through the lens is focused onto the camera's image sensor. That's important only if you need to document the specific distance between your subject and the camera, as you might if you were doing forensics work, for example. Basing the subject distance on this mark produces a more accurate measurement than using the end of the lens or some other point on the camera body as your reference point.
- **Speaker:** When you play a movie that contains audio, the sound comes wafting through these little holes.

Back-of-the-body controls

Traveling over the top of the camera to its back, you encounter the smorgasbord of controls shown in Figure 1-5.

TIP

Buttons with a white icon perform shooting mode functions; buttons with blue icons are used in playback. Some buttons sport dual colors, meaning that they come into play for both functions.

REMEMBER

Throughout this book, pictures of some buttons appear in the margins to help you locate the button being discussed. So even though I provide the official names in the following list, don't worry about getting all those straight right now. Note, however, that some buttons have multiple names because they serve multiple purposes depending on whether you're taking pictures, reviewing images, recording a movie, or performing some other function. In this book, I take the approach used in the camera instruction manual, which is to reference the button according to the name that relates to the current function. Again, though, the margin icons help you know exactly which button you're to press.

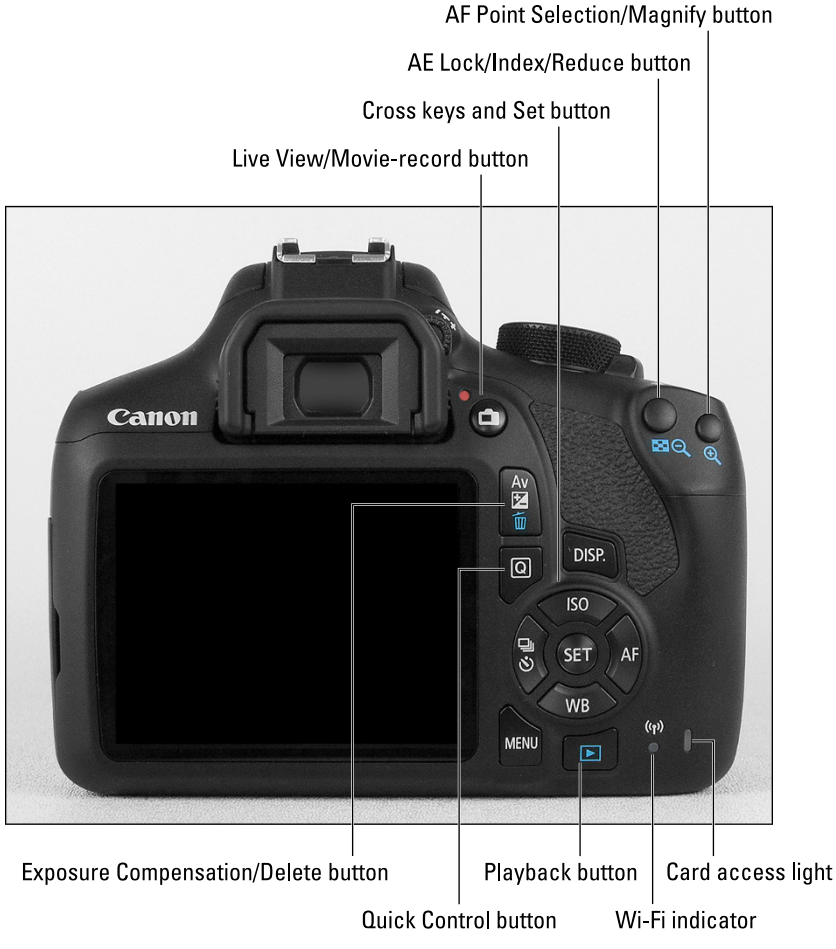

FIGURE 1-5: Having lots of external buttons makes accessing the camera's functions easier.

With that preamble out of the way, it's time to explore the camera back, starting at the top-right corner and working westward (well, assuming that your lens is pointing north, anyway):

- **AF Point Selection/Magnify button:** In certain shooting modes, you press this button to specify which autofocus points you want the camera to use when establishing focus. (Chapter 5 tells you more.) In Playback mode, covered in Chapter 9, you use this button to magnify the image display (thus the plus sign in the button's magnifying glass icon).

- **AE Lock/Index/Reduce button:** During shooting, you press this button to lock autoexposure (AE) settings, as covered in Chapter 4, and to lock flash exposure (FE), a topic I discuss in Chapter 2.

This button also serves two image-viewing functions: It switches the display to Index mode, enabling you to see multiple image thumbnails at once, and it reduces the magnification of images when displayed one at a time.

- **Live View/Movie-record button:** Press this button to shift to Live View mode, which enables you to compose your pictures using the monitor instead of the viewfinder. When shooting movies, you press this button to start and stop recording. (You must first set the Mode dial to the Movie position.)

After you shift to Live View or Movie mode, certain buttons perform different functions than they do for viewfinder photography. I spell out the differences when showing you how to use Live View and movie features throughout the book.

- **Exposure Compensation/Erase button**: In the P, Tv, and Av exposure modes, you press this button while rotating the Main dial to adjust e*xposure compensation,* a feature that enables you to tell the camera to produce a brighter or darker photo on your next shot. If you shoot in the M exposure mode, you press the button while rotating the Main dial to change the aperture setting (f-stop). Chapter 4 discusses both issues.

  During playback, press this button to erase pictures — thus the blue trash-can symbol, the universal sign for "dump it." See Chapter 10 for details.

- **Q (Quick Control) button:** Press this button to display the Quick Control screen, which gives you one way to adjust picture settings. See "Changing Settings via the Quick Control Screen," later in this chapter, for help.

- **DISP button:** In Live View, Movie, and Playback modes, pressing this button changes the picture-display style. When menus are displayed, pressing the button brings up the Camera Settings display, also covered later in this chapter.

- **Set button and cross keys:** Figure 1-5 points out the Set button and the four surrounding buttons, known as *cross keys.* These buttons team up to perform several functions, including choosing options from the camera menus. You use the cross keys to navigate through menus and then press the Set button to select a specific menu setting.

In this book, the instruction "Press the left cross key" means to press the one to the left of the Set button, "press the right cross key" means to press the one to the right of the Set button, and so on.

During viewfinder photography — that is, when you're using the viewfinder and not the monitor to frame your shots — the cross keys also have individual responsibilities, which are indicated by their labels:

- *Press the up cross key to change the ISO setting.* Detailed in Chapter 4, this exposure-related control determines how sensitive the camera is to light. You can adjust this setting only when shooting in the P, Tv, Av, and M

exposure modes. (If the Mode dial is set to one of those modes and nothing happens when you press this cross key or any other buttons, give the shutter button a half-press and release it to wake up the camera.)

- *Press the right cross key to adjust the AF mode.* This option controls one aspect of the camera's autofocus behavior, as outlined in Chapter 5. Again, you can access this setting only in P, Tv, Av, and M shooting modes.
- *Press the left cross key to change the Drive mode.* The Drive mode settings enable you to switch the camera from single-frame shooting to continuous capture or self-timer/remote-control shooting. See Chapter 2 for details.
- *Press the down cross key to change the White Balance setting.* The White Balance control, explained in Chapter 6, enables you to ensure that colors are rendered accurately. The White Balance setting is also off-limits unless the Mode dial is set to P, Tv, Av, or M, but Chapters 3 and 6 show you some options for modifying colors in some of the other shooting modes.

For Live View and Movie shooting, the cross keys perform actions related to autofocusing; I get into those details in Chapter 5.

- **Playback button:** Press this button to switch the camera into picture-review mode.
- **Menu button:** Press this button to access the camera menus.
- **Wi-Fi indicator:** This lamp lights to indicate an active Wi-Fi connection. Chapter 10 explains the Wi-Fi feature that enables you to transfer pictures to a smartphone or tablet. Chapter 12 details the other Wi-Fi possibilities, which include using your phone or tablet as a wireless trigger for the camera's shutter button.
- **Card access light:** This light glows while the camera is recording data to the memory card. Don't power off the camera or remove the memory card while the light is lit; you may damage the card or camera.

Front-left features

The front-left side of the camera sports three important features, labeled in Figure 1-6:

- **Lens-release button:** Press this button to disengage the lens from the lens mount so that you can remove it from the camera. While pressing the button, rotate the lens toward the shutter-button side of the camera to dismount the lens.

- **Microphone:** This cluster of holes leads to the camera's microphone. See Chapter 8 for details about choosing microphone settings.
- **NFC mark:** Labeled in Figure 1-6, this mark indicates where the camera emits the signal that enables your camera to communicate wirelessly to a smartphone or tablet via Near Field Communication technology. Chapter 10 helps you set up your camera to take advantage of this and other Wi-Fi features.
- **Connection ports:** Hidden under the cover labeled *port access door* in Figure 1-6 are inputs for connecting the camera to various devices. Figure 1-7 labels each connection.
  - *Remote-control terminal:* You can attach a remote-control unit such as the Canon Remote Switch RS-60E3 wired controller here.

    The RS-60E3 currently sells for about $20 and is a worthwhile investment for long-exposure shooting (such as nighttime shots and fireworks). By using the remote control, you eliminate the chance that the action of your finger on the shutter button moves the camera enough to blur the shot, which is especially problematic during long exposures.
  - *Digital terminal (USB port):* This terminal is used for connecting your camera to a USB port on your computer so that you can download images to the

TIP

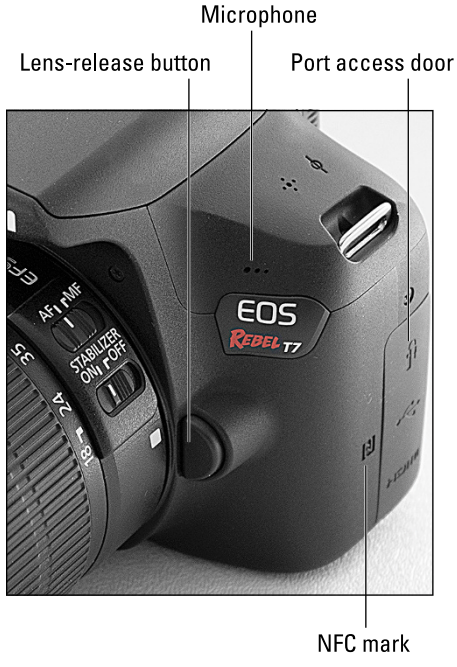

FIGURE 1-6:
When recording movies, be careful not to cover the microphone with your finger.

FIGURE 1-7:
Inputs for connecting the camera to other devices are found under the cover on the left side of the camera.

computer. If your printer supports PictBridge technology, you can also print directly from the camera by connecting the two devices via their respective USB ports.

To take advantage of either option, you must buy a special USB cable. The least expensive option, the Canon IFC-400PCU cable, sells for about $15. But before you buy the cable, know that you can alternatively deliver images to your computer by using a memory-card reader, as explained in Chapter 10.

The terminal also comes into play when you use the optional GPS receiver GP-E2; after attaching the unit to the flash hot shoe on top of the camera, you connect the unit's cable to the digital terminal.

- *HDMI terminal:* For playback on a high-definition television or screen, you can connect the camera via this terminal, using an optional HDMI male to mini-C cable. You'll pay about $50 if you buy Canon's version, the HTC-100 cable. Shop around for better deals on third-party cables if you like.

If you turn the camera over, you find a tripod socket, which enables you to mount the camera on a tripod that uses a ¼-inch screw, plus the chamber that holds the battery and memory card. Also found in the chamber is a connection that enables you to operate the camera using electrical power instead of battery power. To take advantage of this option, you need to buy either the AC Adapter Kit ACK-E10 or both the DC Coupler DR-E10 and the Compact Power Adapter CA-PS700. See the camera manual for specifics on running the camera on AC power.

Ordering from Camera Menus

Only a handful of camera settings can be adjusted by using the external buttons and controls. To access other options, press the Menu button. The following sections tell you what you need to know about the menu system.

Understanding menu basics

Menus are organized into the categories labeled in Figure 1-8. Notice that the icons that represent the menus are color coded: Shooting menu icons are red; Playback menu icons are blue; Setup menu icons are gold; and the My Menu icon is green. (Chapter 11 explains the My Menu feature, which enables you to create a personalized menu.)

TIP

The number of dots above the icon tells you the menu number — one dot for Shooting Menu 1, two dots for Shooting Menu 2, and so on.

The highlighted icon marks the active menu; options on that menu appear automatically on the main part of the screen. In Figure 1-8, Shooting Menu 1 is active, for example.

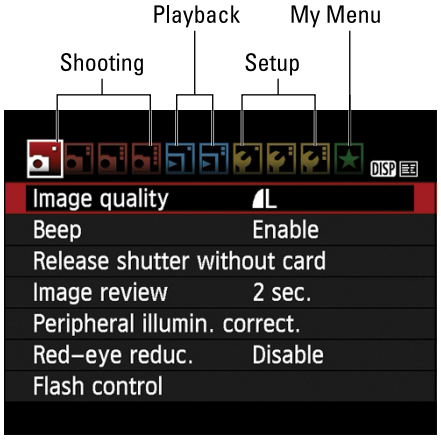

FIGURE 1-8:
You see all these menus only when the Mode dial is set to P, Tv, Av, or M.

REMEMBER

To display all the menus shown in Figure 1-8, you must set the Mode dial to P, Av, Tv, or M. In other modes, you see only a handful of menus because you have limited control over camera operation in those modes. Additionally, when you set the camera to Movie mode, three of the four Shooting menus are replaced by Movie menus, which offer movie-recording options, and a limited version of Shooting Menu 1 is bumped to the right to make room for the Movie menus. The menu icon for the Movie menus changes to a movie-camera symbol to indicate the shift. In addition, Movie mode does not display the My Menu icon.

To cycle through menus, rotate the Main dial or press the left or right cross keys. After landing on a menu, press the up or down cross key to highlight the feature you want to adjust. Then press the Set button to display the available options. Use the cross keys to select a setting and press the Set button again.

When you're ready to exit the menus and start shooting, press the shutter button halfway and release it, or press the Menu button.

Navigating Custom Functions screens

When you select Custom Functions from Setup Menu 3 — a menu available only in the P, Tv, Av, and M exposure modes — you delve into submenus containing advanced settings. Initially, you see a screen similar to the one shown on the left in Figure 1-9.

Some explanation may help you make sense of these screens:

- **Custom Functions are grouped into four categories:** Exposure, Image, Autofocus/Drive, and Operation/Others. The category number and name appear in the upper-left corner of the screen.
- **The number of the selected function appears in the upper-right corner.** Custom Function 1 is indicated in Figure 1-9.