In Intelligent Auto, Creative Control, and Scene shooting modes, ISO is set to Auto and the ISO button has no effect for controlling this setting. You also cannot adjust ISO when shooting movies, unless the camera is in Creative Video mode.

In Intelligent Auto mode, the up button activates AF Tracking; if you press the button when the camera is ready to shoot in that mode, the camera will display the AF Tracking focus frame; you can cancel by pressing the up button again.

In the playback context, the up button is used to start playing a motion picture when the initial frame of the motion picture is displayed on the screen. That button also serves as a play/pause button once the movie has started playing. The button also starts playback for panoramas, time-lapse shots, and high-speed burst sequences. When a normal still image is displayed on the screen, if you press the up button, the camera will present you with options for using its Auto Retouch or Creative Retouch procedure to make adjustments to the image's processing. I will discuss that process in Chapter 6.

## Right Button: White Balance

The right button is assigned the important duty of calling up the menu for selecting the camera's setting for white balance. I will provide some background about this concept before discussing the mechanics of making the setting.

One issue that arises in all photography is that film, or a digital camera's sensor, reacts differently to colors than the human eye does. When you or I see a scene in daylight or indoors under various types of artificial lighting, we generally do not notice a difference in the hues of the things we see depending on the light source. However, the camera's film or sensor does not have this auto-correcting ability. The camera "sees" colors differently depending on the "color temperature" of the light that illuminates the object or scene in question. The color temperature of light is a numerical value that is expressed in a unit known as kelvins (K). A light source with a lower kelvin rating produces a "warmer" or more reddish light. A light source with a higher kelvin rating produces a "cooler" or more bluish light. For example, candlelight is rated at about 1,800 K; indoor tungsten light (ordinary light bulb) is rated at about 3,000 K; outdoor sunlight and electronic flash are rated at about 5,500 K; and outdoor shade is rated at about 7,000 K.

What does this mean in practice? If you are using a film camera, you may need a colored filter in front of the lens to "correct" for the color temperature of the light source. Any given color film is rated to expose colors correctly at a particular color temperature (or, to put it another way, with a particular light source). So if you are using color film rated for daylight use, you can use it outdoors without a filter. But if you happen to be using that film indoors, you will need a color filter to correct the color temperature; otherwise, the resulting picture will look excessively reddish because of the imbalance between the film and the color temperature of the light source.

With a modern digital camera, you do not need to worry about filters, because the camera can adjust its electronic circuitry to correct the "white balance," which is the term used in the context of digital photography for balancing color temperature.

The LX7, like many digital cameras, has a setting for Auto White Balance, which lets the camera choose the proper color correction to account for any given light source. You get access to this setting by pressing the right button, which calls up the White Balance menu screen, shown in Figure 5-23. You then have the following choices for the White Balance setting, most of them represented by icons: Auto White Balance (AWB); Daylight; Cloudy; Shade; Flash; Incandescent; White Set 1; White Set 2; and Color Temperature. (Only the first four options are shown in Figure 5-23; you need to scroll down to reach the others.)



Figure 5-23:White Balance Menu

Most of the settings are self-explanatory. You may want to experiment, though, and see if the specifically named settings (Daylight, Shade, Incandescent, etc.) produce the results you want. If not, you may be better off setting the white balance manually. That is, you can use either the White Set 1 or White Set 2 option, either of which lets you measure the white balance based on the light that is actually illuminating your subject, and save a custom setting to that slot in the camera's memory. Then, you can use that custom setting whenever you are faced with the same lighting situation in the future.



Figure 5-24:White Set 1 Option for Setting Custom White Balance

To set white balance manually, press the right button to pop up the White Balance menu and scroll to select White Set 1 or White Set 2, as shown in Figure 5-24.

Then press the right button, and a yellow rectangle will appear in the middle of the display, as shown in Figure 5-25.



Figure 5-25:Yellow Frame for Setting Custom White Balance

Aim the camera at a sheet of white or gray paper or other flat surface under the light source you will be using, and fill the rectangle with the image of that surface. Then press the Menu/ Set button (not the shutter button) to lock in that white balance setting. Now, until you change that setting, whenever you select that preset value (White Set 1 or White Set 2, as the case may be), it will be set for the white balance you have just set. This system can be very useful if you often use a particular light source, and want to have the camera set to the appropriate white balance for that source.

To set the color temperature directly by number, choose the Color Temperature option from the White Balance menu, as shown in Figure 5-26. Press the right cursor button to pop up a screen with a color temperature value displayed, as shown in Figure 5-27. You then can press the up and down buttons or turn the rear dial to adjust that value, anywhere from 2500K up to 10000K in increments of 100K.



Figure 5-26: Color Temperature Option for White Balance



Figure 5-27: Color Temperature Setting Screen

One way to determine the appropriate numerical K value for a particular light source is to use a color temperature meter like the Sekonic Prodigi meter shown in Figure 5-28.



Figure 5-28: Sekonic Prodigi

That meter works well, and I find it quite convenient to use it when I'm striving for accuracy in my white balance settings. This device is fairly expensive, though, and you may not want to use that option. In that case, you can still use the Color Temperature option, but you will have to do some guesswork or use your own sense of color. For example, if you are shooting under lighting that is largely from incandescent bulbs, you can use the value of 3,000 K as a starting point, because, as noted earlier in this discussion, that is an approximate value for the color temperature of that light source. Then you can try setting the color temperature figure higher or lower, and watch the camera's display to see how natural the colors look. As you lower the color temperature, the image will become more "cool" or bluish; as you raise it, the image will appear more "warm" or reddish. Once you have found the best setting, leave it in place and take your shots.

Once you have selected a White Balance setting, either using one of the preset values such as Daylight, Incandescent, or Cloudy, or using a custom-measured setting or a color temperature value, you still have the option of fine-tuning the setting. To do so, after you have selected your desired white balance setting, before pressing the Menu/Set button, press the right button one more time, and you will be presented with a screen for fine adjustments, as shown in Figure 5-29.



Figure 5-29: White Balance Adjustment Screen

You will see a box with a pair of axes that intersect at a zero point, marked by a yellow dot. The four ends of the axes are labeled G, B, M, and A, for Green, Blue, Magenta, and Amber.

You can now use all four directional buttons to move the yellow dot away from the center along any of the axes, to adjust these four values until you have the color balance exactly how you want it. The camera will remember this value whenever you select the white balance setting that you fine-tuned, so be sure to remove the adjustment by setting it back to the zero point when it is no longer needed. When you have altered the setting using this screen, the white balance icon on the camera's display changes color to indicate what changes you have made along the color axes. For example, Figure 5-30 shows the icon, in the bottom right corner of the screen, after the White Balance setting was adjusted toward the Amber side of the axes.



Figure 5-30: White Balance Icon Showing Adjustment - Lower Right

One more note: If you're shooting in RAW quality, you don't have to worry about white balance so much, because, once you import the RAW file into your software, you can change the white balance however you want. This is one of the marvels of RAW. If you had the camera's white balance setting at Incandescent while shooting under a bright sun, you can just change the white balance setting to Daylight in the RAW software, and the software will correct the image to look as if it had been shot with the white balance set to Daylight. No one need ever know about the error of your shooting.

Before I discuss white balance bracketing, I am going to include a chart (Figure 5-31) that shows how the white balance settings affect the images taken by the LX7.