

## CHAPTER 3: THE RECORDING MODES

Until now I have discussed basic settings for quick shots, relying heavily on Intelligent Auto mode, in which settings are controlled mostly by the camera's automation. Like other sophisticated cameras, though, the LX10 has many options for setting up the camera to record pictures and videos. One of the goals of this book is to explain those options clearly. To do this, I need to cover several areas, including recording modes, menu items, and physical controls. In this chapter, I will discuss the camera's recording modes and how the selection of one of these modes affects your images.

### Choosing a Recording Mode

Whenever you set out to capture still images or videos, an important first step is to select a recording mode, sometimes called a shooting mode. This “mode” controls the camera's behavior for adjusting exposure and other options. As with most advanced cameras, the LX10 provides a standard set of modes: Intelligent Auto, Program AE (also known as Program), Aperture Priority, Shutter Priority, and Manual exposure. These last four are often known as the PASM modes, for the first letter of each mode. This camera also offers some more specialized modes: Creative Video, Custom, Panorama, Scene, and Creative Control.

Each of the LX10's ten shooting modes is assigned a slot on the mode dial; you select the mode by turning the dial so the mode's icon is next to the white selector mark. For example, Figure 3-1 shows the dial when Creative Control mode is selected.



Figure 3-1. Mode Dial at Creative Control

With that introduction to the recording modes, I will provide more detailed explanations of the modes for shooting still images in this chapter. (I will discuss Creative Video mode in Chapter 8.)

### Intelligent Auto Mode

This is the mode to choose if you need to have the camera ready for a quick shot in an environment with fast-paced events when you won't have time to fuss with settings. It's also handy if you need to hand the camera to a stranger to take a picture of your group. In Figure 3-2, I used this setting for a shot of people lining up at a food booth at an arts fair.



Figure 3-2. Intelligent Auto Example Image

To make this setting, turn the mode dial on top of the camera so the iA icon is next to the white indicator mark, as shown in Figure 3-3.



Figure 3-3. Mode Dial at Intelligent Auto

You then should see a red camera icon with white characters for iA in the upper left corner of the screen, as shown in Figure 3-4.



Figure 3-4. iA Icon for Intelligent Auto Mode

If the icon has a white plus sign at the right, as shown in Figure 3-5, the camera is set to Intelligent Auto Plus mode.



Figure 3-5. iA+ Icon for Intelligent Auto Plus Mode

To change it back to the standard Intelligent Auto mode, press the Menu/Set button to enter the menu system, navigate to the iA icon on the far left of the screen, and then, on the right side of the menu screen, select the icon for iA instead of iA Plus. (I will discuss the differences between the two iA modes later in this section; for now, it will be simpler to leave the camera in iA mode.) Or, you can just touch the iA+ icon to bring up a screen for changing to iA mode.

In iA mode, the camera limits the settings you can make, in order to simplify things. For example, you cannot adjust items such as exposure compensation, white balance, ISO, Photo Style, Metering Mode, Filter Settings, most settings for Autofocus Mode (setting the area for autofocus) and several others. You can select manual focus, though.

The camera turns on several settings, including Auto White Balance, scene detection, image stabilization, and

backlight compensation, all of which are useful settings that will not unduly limit your options in most cases. I'll discuss all of those items in Chapter 4 in connection with Recording menu settings, except scene detection and backlight compensation, which I will discuss here, because they are not menu options; the camera uses them automatically in Intelligent Auto mode.

With scene detection, the camera attempts to figure out if a particular scene type should be used for the current situation. The camera uses its programming to detect certain subjects or environments. For example, it looks for people; babies (if you have registered them using the Face Recognition menu option); night scenes; close-ups; sunsets; food; and portraits. It will identify scenes calling for the iHandheld Night Shot setting if that option is turned on through the menu system. That feature is discussed in Chapter 4. If the camera detects one of these factors, it displays an icon for that type of scene and adjusts its settings accordingly. Otherwise, it displays the standard iA icon.

For example, in Figure 3-6 the camera detected the mannequin's face and displayed the icon for portrait scene detection.

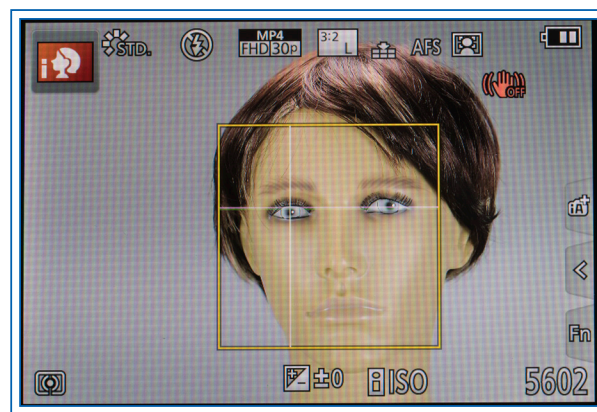


Figure 3-6. Scene Detection Screen for Portrait Image

In Figure 3-7 the camera detected a closeup situation when I took a picture of flowers in a vase, and it displayed the flower icon that indicates a macro shot.





Figure 3-7. Scene Detection Screen for Macro Image

When shooting motion pictures or using the 4K Photo or Post Focus features, the camera detects fewer scene types—only portraits, scenery, low light, and macro shots.

With backlight compensation, the camera will try to detect situations in which the subject of the photograph is lighted from behind. This sort of lighting can “fool” the camera’s metering system into making the exposure too dark, because of the light shining toward the lens. The result would be a subject that is too dark, without backlight compensation. With this setting, the camera automatically adjusts its exposure to be brighter, to overcome the effects of the backlighting.

Even though the LX10 makes several automatic settings in Intelligent Auto mode, there are still some options you can adjust using the menu system and, to some extent, the physical control buttons.

First, you can use the Recording menu to select certain settings, although the choices are sharply limited compared to the many options that are available in other still-shooting modes. In those other modes (including Intelligent Auto Plus), there are eight screens of options available on the Recording menu; in basic Intelligent Auto mode, there are only three screens of options. I will discuss those options in Chapter 4. I included a table of recommended settings for general picture-taking in this mode in Chapter 2.

Second, you can press the Left button to bring up the focus mode menu and select either AF for autofocus or MF for manual focus. I discussed the general use of those settings in Chapter 2 and I will provide more details in Chapter 5.

Third, you can press the Down button to call up the drive mode menu, which I mentioned briefly in Chapter 2. In Intelligent Auto mode, you can select any option on the drive mode menu, including burst shooting, 4K Photo, Post focus, and the self-timer. I will provide further information in Chapter 5.

You also can use other controls for their intended purposes in this mode, such as the 4K button to get access to the 4K settings and the Q.Menu button to get access to the Quick Menu. You can pop up the flash with the flash release button, but the camera will decide whether to use it. I will discuss those options, among others, in Chapter 5.

In summary, although the Intelligent Auto shooting mode lets the camera make most of the technical decisions, you still can have a fair amount of involvement in making settings for photographs (and movies). Especially when you’re just starting out to use the LX10, the basic Intelligent Auto mode provides a good start for exploring the camera’s features. The automation in this mode is sophisticated and will often produce excellent results; the drawback is that you don’t have as much creative control as you might like. But for ordinary picture-taking opportunities, vacation photos, and quick shots when you don’t have much time to decide on particular settings, Intelligent Auto is a wonderful tool to have at your fingertips.

## INTELLIGENT AUTO PLUS MODE

If you want the camera to make its own decisions for several options but you want to be able to make more settings from the menus and physical controls, you can select Intelligent Auto Plus mode. As I discussed earlier, to set this mode, navigate to the iA icon at the top of the line of menu icons at the far left of the menu system, then move back to the right side and select the iA icon with a plus sign, as shown in Figure 3-8.

In this mode, the camera displays seven screens of the Recording menu, instead of only three screens, as in the basic Intelligent Auto mode. (The camera skips over screen 6.) However, some of the menu items, such as Filter Settings, Sensitivity, Metering Mode, Highlight Shadow, and others, are dimmed and unavailable for selection because the camera chooses those settings automatically in this mode.



Figure 3-8. iA+ Icon Selected for Intelligent Auto Plus Mode

The LX10 also gives you access to many more options on the Custom menu than are available in basic Intelligent Auto mode, including items such as Half Press Release, Focus/Release Priority, MF Assist, and others. Those features are discussed in Chapter 7.

### Using the Up Button: Defocus Control and Exposure Compensation

In addition, with Intelligent Auto Plus mode in effect, you can press the Up button to get access to the exposure compensation, defocus control, and color tone options, which I discussed in Chapter 2.

To use exposure compensation, from the shooting screen, press the Up button to display the adjustment scale shown in Figure 3-9.



Figure 3-9. Exposure Compensation Scale on Display

With that scale on the display, use the rear dial, the Left and Right buttons, or the touch screen to select a value for positive or negative exposure compensation, up to 5 EV (exposure value) units in either direction. The screen will grow brighter or darker to indicate the effect of the setting.

Press the Menu/Set button to confirm the setting and return to the normal shooting screen. A scale at the bottom center of the screen will show the degree of exposure compensation that is in effect, as seen in Figure 3-10 which shows +2/3 EV (exposure value). I will provide an example of the use of exposure compensation in Chapter 5.



Figure 3-10. Exposure Compensation Icon on Shooting Screen

You also can adjust the settings for exposure bracketing when the exposure compensation scale is displayed. To do that, press the Up button repeatedly to cycle through the various options for the interval between exposures and the number of bracketed shots. I will discuss bracketing in more detail in Chapter 5.



Figure 3-11. Defocus Control Adjustment Screen

To use defocus control, from the shooting screen, press the Up button to display the exposure compensation scale, then press the Fn1 button to display the aperture and shutter speed scales at the bottom of the screen, as shown in Figure 3-11. When those dials are displayed, turn the rear dial to set the aperture value as you want it. With a lower number, such as f/1.4, the background is likely to be more defocused; with a higher number, such as f/8.0, more of the image is likely to be in sharp focus.



## Using the Right Button: Color Control

When the camera is in Intelligent Auto Plus mode, if you press the Right button, the camera will display a screen for adjusting color tone, as shown in Figure 3-12.



Figure 3-12. Color Tone Adjustment Screen

If you move the center marker to the right using the rear dial, Right button, or touch screen, colors will be adjusted to the bluish, or “cooler” side; if you move it to the left, they will be adjusted to the reddish, or “warmer” side. If any such adjustment is made, a small color block will appear in the lower right corner of the shooting screen, as shown in Figure 3-13, where the icon indicates an adjustment to the blue side.

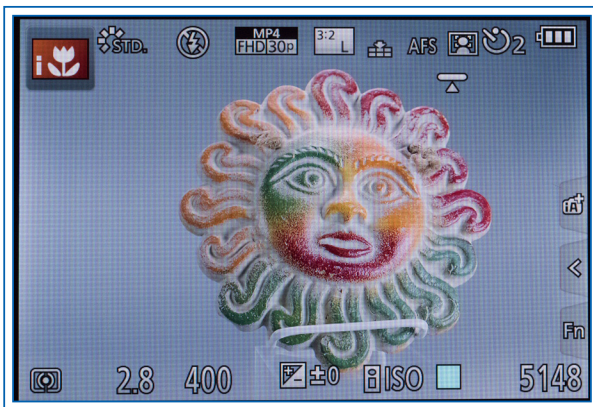


Figure 3-13. Color Tone Adjustment Icon on Shooting Screen

In Intelligent Auto Plus mode, as in basic Intelligent Auto mode, you can pop up the camera's built-in flash unit, but you have no control over whether the camera will cause it to fire; that process will be handled automatically by the camera. If you don't want the flash to fire, leave it retracted inside the camera.

## Program Mode

Program mode, also known as Program AE (for autoexposure), with the mode dial set as shown in Figure 3-14, is the most automatic of the advanced (PASM) recording modes.



Figure 3-14. Mode Dial at Program

In this mode, the camera displays a P icon in the upper left corner of the display, as shown in Figure 3-15.



Figure 3-15. P Icon for Program Mode

When you aim the camera at your subject, the exposure metering system will evaluate the light and choose both the shutter speed and aperture, which will be displayed in the lower left corner of the display when you press the shutter button halfway.

If those two values flash in red, that means the camera is unable to find settings that will yield a proper exposure. In that case, you may need to adjust the ISO setting or change the lighting conditions by using flash or taking other steps. In this mode, the camera can use its full range of aperture settings, from f/1.4 to f/11.0, and shutter speeds from 1/4000 second to 60 seconds if the mechanical shutter is in use, or from 1/16000 second to one second if the electronic shutter is in use.

If you want to alter the camera's settings by selecting a different shutter speed or aperture while keeping the same overall exposure, you can do that (if conditions permit) by using a feature called Program Shift. After you press the shutter button halfway to evaluate exposure,

you can turn the rear dial (on back of the camera) within the next 10 seconds, and the camera will try to select another combination of shutter speed and aperture settings that will result in a normal exposure.

For example, if the camera initially selects settings of f/4.5 and 1/125 second, when you turn the rear dial, the camera may change the settings to f/5.0 and 1/100 second, or f/5.6 and 1/80 second. If you turn the dial in the other direction, the camera may change the settings to f/4.0 and 1/160 second, or f/3.5 and 1/200 second.

However, if ISO is set to Auto ISO instead of a specific numerical value, the camera may shift the aperture value and ISO value, but not the shutter speed. If ISO is set to Intelligent ISO, Program Shift is not available. (ISO settings are discussed in Chapter 4.)

Program Shift can be useful if you want to have the camera make the initial choice of settings, but you want to tweak them to use a slightly higher shutter speed to stop action, or a wider aperture to blur the background, for example. When Program Shift is in effect, the camera displays the P icon with a double-ended arrow in the lower left corner of the screen, as shown in Figure 3-16.

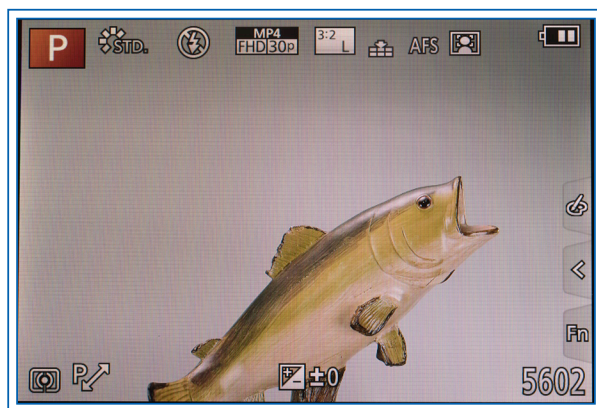


Figure 3-16. Program Shift Icon on Shooting Screen

In addition, if the Exposure Meter option is turned on through screen 5 of the Custom menu, the camera will show the shutter speed and aperture settings in two moving strips, as seen in Figure 3-17. Program Shift is not available when recording motion pictures or 4K photos, or when using the Post Focus feature.

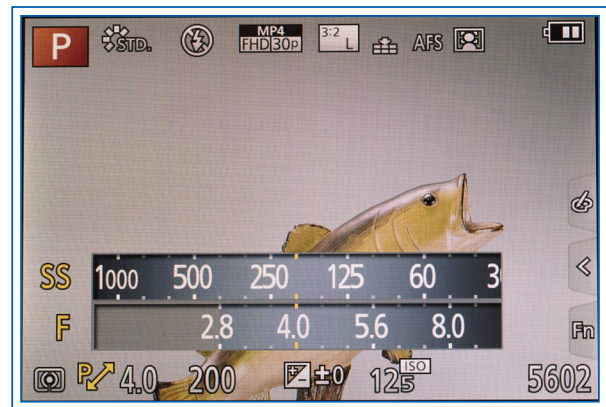


Figure 3-17. Program Shift with Exposure Meter Option in Use

With Program mode, as with Intelligent Auto mode, the camera will select both the shutter speed and the aperture. However, unlike Intelligent Auto mode, with Program mode you can control many settings besides shutter speed and aperture. You don't have to make a lot of decisions if you don't want to, however, because the camera will make reasonable choices for you as defaults.

Program mode greatly expands the choices available through the Recording menu. You will be able to make choices involving white balance, image stabilization, ISO sensitivity, filter effects, metering method, autofocus area, and others. I won't discuss all of those choices here; if you want to explore that topic, see the discussion of the Recording menu in Chapter 4.

Besides unlocking many options in the Recording menu, choosing Program mode provides you with access to settings in the Custom menu that are not available in Intelligent Auto Mode, such as various focus-related settings and options for setting how the camera's controls operate, including the function buttons. I will discuss those options in Chapter 7.

Using Program mode does involve some tradeoffs. The most obvious issue is that you don't have complete control over the camera's settings. You can set many options, such as Photo Style, Quality, Picture Size, and ISO, but you can't directly control the aperture or shutter speed, which are set according to the camera's programming. You can exercise a good deal of control through exposure compensation and exposure bracketing (discussed in Chapter 5) and Program Shift (discussed above), but that's not the same as selecting a particular aperture or shutter speed at the outset. If you want that degree of control, you'll need to select Aperture Priority, Shutter Priority, or Manual exposure for your recording mode.



## Aperture Priority Mode

This mode is similar to Program mode in the functions available for you to control, but, as the name implies, it gives you more control over the camera's aperture.



Figure 3-18. Mode Dial at Aperture Priority

In this mode, set by turning the mode dial to A, as shown in Figure 3-18, you select the aperture setting and the camera will select a shutter speed that will result in normal exposure, if possible. The camera will choose a shutter speed anywhere from 60 seconds to 1/4000 second. However, this range is limited to 60 seconds to 1/2000 second if the aperture is set to f/2.8 or wider (lower numbers). The aperture has to be set to f/3.2 or narrower (higher numbers) for the camera to use a mechanical shutter speed of 1/3200 or 1/4000 second. (The range is one second to 1/16000 second when the electronic shutter is in use; that feature is discussed in Chapter 4.) If none of these values results in a normal exposure, both the shutter speed and aperture values will turn red and flash. In that case, you may need to adjust the aperture or the ISO setting, or change the lighting conditions.

The main reason to choose this mode is so you can select an aperture to achieve a broad depth of field, with objects in focus at different distances from the lens, or a shallow depth of field, with only one subject in sharp focus and other parts of the image blurred to reduce distractions. With a narrow aperture (higher f-stop number) such as f/11.0, the depth of field will be relatively broad; with a wide aperture such as f/1.4, it will be more shallow, resulting in the possibility of a blurred background.

Because the range between the widest and narrowest aperture settings available on the LX10 is not very great, this camera does not readily produce dramatically blurred backgrounds just from changing the aperture. However, there can be a noticeable difference from this setting. For example, in Figures 3-19 and 3-20, I made the same shot with two very different aperture settings. I focused on the vase in the foreground in each case.



Figure 3-19. Image with Aperture Set to f/1.4



Figure 3-20. Image with Aperture Set to f/11.0

For Figure 3-19, I set the aperture of the LX10 to f/1.4, the widest possible. With this setting, because the depth of field at this aperture was relatively shallow, the trees in the background are blurry. I took Figure 3-20 with the camera's aperture set to f/11.0, the narrowest possible setting, resulting in a broader depth of field, and bringing the background into sharper focus.

These two photos show the effects of varying the aperture by setting it wide (low numbers) to blur the background or narrow (high numbers) to achieve a broad depth of field and keep subjects at varying distances in sharp focus. There are two other ways to achieve a blurred background. First, you can zoom the lens in to a telephoto setting, which reduces the depth of field and renders the background blurry, if the foreground subject is not too distant from the lens. Second, if you focus on a subject at a very close distance, the depth of field will be minimal, and the background will be blurry.

Of course, with either of those techniques, you have to accept the other effects of the setting—either a

telephoto shot or a closeup shot, which may not be practical for the image you are making. For example, with a portrait, you may find that the best option for blurring the background is to choose the widest possible aperture.

Figure 3-21 is an image I took with the lens focused very close, in macro mode, to show how that setting can produce a blurred background apart from the aperture setting.

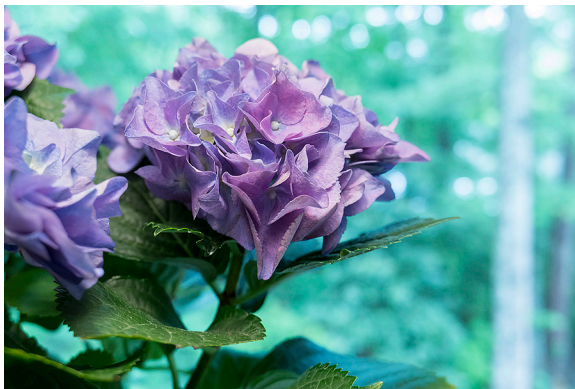


Figure 3-21. Blurred Background for Macro Image

To set the aperture, turn the aperture ring so the desired setting is opposite the white dot at the base of the lens, as shown in Figure 3-22. The number of the f-stop will also appear in the lower left corner of the display, as shown in Figure 3-23, where the value is f/5.6.



Figure 3-22. Aperture Ring at f/5.6

The shutter speed will be displayed also, but not until you have pressed the shutter button halfway down to let the camera evaluate the exposure.

If you turn on the Exposure Meter option on screen 5 of the Custom menu, the camera will display two gray linear scales showing the shutter speed and the aperture, as seen in Figure 3-24.

It is important to note that not all apertures are available at all times. In particular, the widest-open aperture, f/1.4, is available only when the lens is

zoomed out to its wide-angle setting (moved toward the W indicator). At higher zoom levels, the widest aperture available changes quickly so that, when the lens is zoomed in to the 31mm level or beyond, the widest aperture available is f/2.8.



Figure 3-23. Shooting Screen in Aperture Priority Mode



Figure 3-24. Exposure Meter Option in Aperture Priority Mode

To see an illustration of this point, here is a quick test. Zoom the lens out by moving the zoom lever all the way to the left, toward the W. Then select Aperture Priority mode and set the aperture to f/1.4 by turning the aperture ring all the way to the f/1.4 setting. Now zoom the lens in by moving the zoom lever to the right, toward the T. After the zoom is complete, you will see that the aperture has changed to f/2.8, because that is the widest the aperture can be at the maximum zoom level. (The aperture will change back to f/1.4 if you move the zoom back to the wide-angle setting; so you need to check your aperture after zooming out as well as after zooming in, to make sure you will not be surprised by an unexpected aperture setting.)

Because not all apertures are available at all times, there will be situations when the setting on the aperture ring does not agree with the actual aperture setting. For



example, if you set the aperture ring to  $f/2.0$  when the lens is zoomed in to the 31mm point or greater, the actual aperture setting will be  $f/2.8$ . This situation does not cause any problems with the camera's operation, but it can be confusing if you don't remember to check the camera's display for the actual aperture setting when you are not using the wide-angle focal length of the lens.

## Shutter Priority Mode

The next shooting mode is a complement to Aperture Priority mode. In Shutter Priority mode, with the mode dial at the S position as shown in Figure 3-25, you choose the shutter speed and the camera will set the corresponding aperture to achieve a proper exposure of the image.



Figure 3-25. Mode Dial at Shutter Priority

In this mode, you can set the shutter for a variety of intervals ranging from 60 full seconds to  $1/4000$  of a second when using the mechanical shutter. With the electronic shutter, the range is from one second to  $1/16000$  second. (I will discuss the Shutter Type menu option in Chapter 4.) However, as with Aperture Priority mode, the shutter speed range places limits on the aperture setting. If the mechanical shutter speed is set to  $1/4000$  second, the camera cannot use an aperture wider than  $f/3.2$  (lower numbers). (The available shutter speed settings are different for motion pictures.) The camera will select an aperture from its full range of  $f/1.4$  to  $f/11.0$ , unless the lens is zoomed in. In that case, as discussed in connection with Aperture Priority mode, the widest aperture available is  $f/2.8$ .

If the camera cannot set an aperture to result in a normal exposure, the shutter speed and aperture values will flash red. If you are photographing fast action, such as a baseball swing or a hurdles event at a track meet, and you want to stop the action with a minimum of blur, you should select a fast shutter speed, such as  $1/500$  of a second. You can use a slow shutter speed, such as  $1/8$  second or slower, to cause motion blur for effect, such as to smooth out the appearance of flowing water.

In Figures 3-26 and 3-27 I photographed the same action using different shutter speeds to illustrate the different effects. In both cases, I took a picture as I was pouring a cup of uncooked rice into a pitcher.



Figure 3-26. Shutter Speed Set to  $1/2000$  Second



Figure 3-27. Shutter Speed Set to  $1/30$  Second

In Figure 3-26, using a shutter speed of  $1/2000$  second, the camera froze the rice in mid-air, letting you see the grains of rice individually. In Figure 3-27, using a much slower shutter speed of  $1/30$  second, the rice appears to form a single stream of white, because that shutter speed was not fast enough to stop the action.

You select the shutter speed by turning the rear dial. For example, to set a value of  $1/500$  second, turn the dial so the 500 indication appears. Values faster than  $1/4000$  second are available only if the Shutter Type option on screen 5 of the Recording menu is set to Auto or Electronic, shown as ESHTR on the menu.

On the shutter speed display, be sure to distinguish between the fractions of a second and the times that