Chapter 3: Shooting Modes

The Sony HX90V and its sister model provide many options and settings for both still images and movies. These options are selected by choosing a shooting mode as well as various menu options and other settings. I will discuss shooting modes in this chapter, Shooting menu options in Chapter 4, and settings with physical controls in Chapter 5.

To record still images, you need to select one of the available shooting modes on the Mode dial: Intelligent Auto, Superior Auto, Program Auto, Aperture Priority, Shutter Priority, Manual exposure, Scene Selection, iSweep Panorama, or Memory Recall. (The other mode on the dial is for recording movies.) So far, I have concentrated on procedures using Intelligent Auto mode. This chapter will discuss all of the shooting modes, starting with a review of the first one.

Intelligent Auto Mode

This is the mode to select for a quick shot when you don't have time to deal with settings such as ISO, white balance, aperture, shutter speed, or metering method. It's a good mode to choose when you hand the camera to someone to take a photo of you and your companions.

To set this mode, turn the Mode dial to the green camera icon, as shown in Figure 3-1.

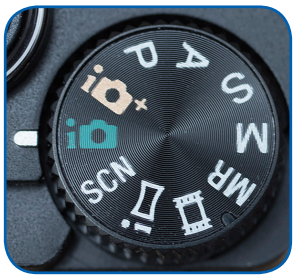

Figure 3-1. Mode Dial at Intelligent Auto

When you do this, the camera may display the Mode Dial Guide screen, showing Intelligent Auto Mode selected on a graphic Mode dial display, as seen in Figure 3-2. If the Mode Dial Guide option on screen 2 of the Setup menu is turned off, the camera will not automatically display the Mode Dial Guide.

Figure 3-2. Mode Dial Guide Screen for Intelligent Auto Mode

In Intelligent Auto mode, the camera makes several decisions for you and limits your options in some ways. For example, you can't set the ISO or white balance to any value other than Auto, and you can't choose a metering method or use the Picture Effect option to alter the appearance of images. You can, however, use quite a few features, as discussed in Chapter 2, including the Photo Creativity options, continuous shooting, Flash Mode, Face Detection, and others.

In this mode (and Superior Auto mode, discussed next), the camera uses its programming to try to figure out what subject or scene you are shooting. Some subjects the camera will try to detect are Infant, Portrait, Night Portrait, Night Scene, Landscape, Backlight, Low Light, Spotlight, and Macro. It also will try to detect certain conditions, such as whether a tripod is in use, whether the subject is moving, and the brightness of the lighting, and it will display icons for those factors. So, if you see different icons when you aim at various

subjects in this shooting mode, that means the camera is evaluating the scene for factors such as brightness, backlighting, the presence of human subjects, and the like, so it can use the best settings for the situation. Face detection must be turned on for the camera to recognize faces with the Infant setting or any of the Portrait settings.

For Figure 3-3, the camera evaluated a scene with a mannequin's head and appropriately used its Portrait setting. The Portrait scene-recognition icon is seen in the upper left corner of the screen.

Figure 3-3. Scene Recognition for Portrait Setting

Figure 3-4 shows the use of automatic scene recognition for a knight figurine closer to the lens. The camera interpreted the scene as a macro, or closeup shot, and switched automatically into Macro mode, indicated by the flower icon. In addition, the camera correctly detected that it was attached to a tripod, as indicated by the tripod icon to the lower right of the macro symbol.

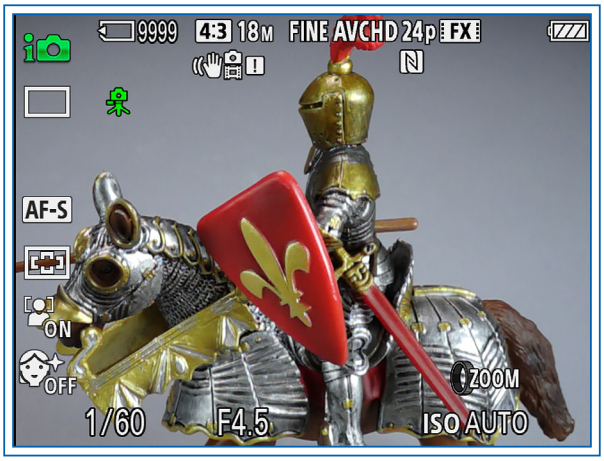

Figure 3-4. Scene Recognition for Macro Setting

Of course, scene recognition depends on the camera's programming, which may not interpret every scene the same way you would. If that becomes a problem, you may want to make individual settings using one of the more advanced shooting modes, such as Program, Aperture Priority, Shutter Priority, or Manual. Or, you can use the SCN setting on the Mode dial and select a Scene mode setting that better fits the current situation.

Superior Auto Mode

With many compact cameras, there is only one largely automatic shooting mode. These Sony cameras, however, provide you with two choices, both of which provide high degrees of automation but which have one significant difference. The second version of Auto mode, called Superior Auto, is designated on the Mode dial by the icon of a tan-colored camera with the letter "i" and a plus sign next to it, as shown in Figure 3-5.

Figure 3-5. Mode Dial at Superior Auto

Superior Auto mode includes all functions of Intelligent Auto mode, and adds one extra feature. In Superior Auto mode, as in Intelligent Auto mode, the camera uses its scene recognition capability to determine what subject matter or conditions are present, such as a portrait, a dimly lit scene, and the like. For many of these subjects, the camera operates the same way as in Intelligent Auto mode.

However, with situations involving dimly lit or backlit scenes, the camera takes a different approach: It will take a rapid burst of shots and combine them internally into a single image with higher quality than would be possible with a single shot. The higher quality can be achieved because the camera generally has to raise the ISO setting to a fairly high level, which introduces visual "noise" into the image. By taking multiple shots and then merging them, the camera can average out

and cancel some of the noise, thereby increasing the quality of the resulting image.

One problem with this system is that you, the photographer, can't control when the camera uses this burst shooting technique. The camera will evaluate the lighting and use this technique if the lighting appears to be excessively dark or if backlighting is detected.

When the camera believes this option is appropriate, it fires a quick series of shots; you will hear the rapid firing of the shutter. Then, it will take longer than usual for the camera to process the multiple shots into a single image; you will likely see a message saying "Processing" on the screen for several seconds. When the camera is using this operation, which Sony calls "Overlay," you will see a small white icon in the upper left corner of the display that looks like a stack of frames with a plus sign at its upper right corner, as shown in Figure 3-6.

Figure 3-6. Overlay Icon in Upper Left Corner of Display

I have not found much advantage from using the Superior Auto setting. However, the overlay feature may improve the quality of an image, so it is not a bad idea to set the camera to the Superior Auto mode when you are shooting in low-light or backlit conditions. As a general rule, though, I prefer to use a mode such as Program, discussed below, and set my own values for items such as DRO, HDR, ISO, and metering mode.

Program Mode

Choose this mode by turning the Mode dial to the P setting, as shown in Figure 3-7.

Figure 3-7. Mode Dial at Program

Program mode (also called Program Auto mode) lets you control many settings on the camera, apart from shutter speed and aperture, which the camera chooses on its own. You can override the automatic exposure to a fair extent by using exposure compensation, as discussed in Chapter 5, as well as exposure bracketing, discussed in Chapter 4, and Program Shift, discussed later in this section. You don't have to make a lot of decisions if you don't want to, because the camera will make reasonable choices as defaults. The camera can choose a shutter speed as long as one second or as short as 1/2000 second. It can use apertures from f/3.5 to f/6.4. (Sony has limited the range of aperture settings in this mode; in other modes, the aperture can be set to its most narrow value of f/8.0.)

The Program Shift function, which is available only in Program mode, works as follows: When you aim the camera at your subject, the camera will display its chosen settings for shutter speed and aperture in the lower left corner of the display. At that point, turn the Control wheel on the back of the camera. The values for shutter speed and aperture will change, if possible under current conditions, to different values for both settings while keeping the same overall exposure of the scene.

(HX90V only) You also can use the Control ring (the large ring around the lens) to make this setting, if the Control Ring option is set to the Standard setting through the Custom Key Settings item on screen 4 of the Custom menu, as discussed in Chapter 7. If you use the Control ring for Program Shift, you will see two circular scales on the display, with shutter speed and aperture values that shift as you turn the ring. (A similar display is visible at the bottom of the screen if you use the Control wheel, but only if the Exposure Settings Guide menu option is turned on through screen 2 of the Custom menu.)

With the Program Shift option, the camera "shifts" the original exposure to any of the matched pairs that

appear as you turn the Control wheel. For example, if the original exposure was f/3.0 at 1/30 second, you may see equivalent pairs of f/4.0 at 1/25, f/4.5 at 1/20, and f/5.0 at 1/15, among others. When Program Shift is in effect, the P icon in the upper left corner of the screen will have an asterisk to its right, as shown in Figure 3-8.

Figure 3-8. Program Shift Icon on Display Screen

To cancel Program Shift, turn the Control wheel or Control ring (HX90V only) until the original settings are back in effect or release the flash by pressing the flash pop-up button. (Program Shift cannot function when the flash is in use.)

Program Shift is useful if, for example, you want to let the camera make the original exposure setting but you want a faster shutter speed to stop action or a wider aperture to blur the background. Of course, if you need to use a particular shutter speed or aperture, you probably should use Aperture Priority mode or Shutter Priority mode. However, Program Shift is a good option to have when you're taking pictures quickly using Program mode and you need a fast way to tweak the settings somewhat.

One important aspect of Program mode is that it expands the choices available through the Shooting menu, which controls many of the camera's settings. You will be able to make choices involving ISO sensitivity, metering method, DRO/HDR, white balance, Creative Style, and others that are not available in the Auto or Scene modes. I won't discuss those settings here; see Chapter 4 for information about all of the different selections that are available.

Aperture Priority Mode

You set the camera to the Aperture Priority shooting mode by turning the Mode dial to the A setting, as shown in Figure 3-9. In this mode, you select the aperture setting and the camera will select a shutter speed that will result in normal exposure, if possible.

Figure 3-9. Mode Dial at Aperture Priority

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 object in sharp focus and other parts of the image blurred to reduce distractions. With a narrow aperture (higher f-stop number) such as f/8.0, the depth of field will be relatively broad; with a wider aperture such as f/3.5, it will be shallower, resulting in the possibility of a blurred background.

In Figure 3-10 and Figure 3-11, I made the same shot with two different aperture settings. I focused on the apple in the foreground in each case. For Figure 3-10, the aperture of the camera was set to f/3.5, the widest setting available.

Figure 3-10. Aperture Set to f/3.5

With this setting, because the depth of field at this aperture was somewhat shallow, the objects in the background are blurry. I took Figure 3-11 with the camera's aperture set to f/8.0, the narrowest possible, resulting in a broader depth of field, and consequently bringing the background into somewhat sharper focus.

Figure 3-11. Aperture Set to f/8.0

With cameras like the HX80 and HX90V, which have a fairly small digital sensor and do not have a very wide maximum aperture, the blurred-background effect from a wide aperture is not that dramatic, because of the laws of optics. You can achieve a much more noticeable effect of this sort using a camera with a larger sensor and a wider aperture range, such as any camera from the Sony RX100 series or a full-frame camera such as the Sony RX1R II. However, these two photos illustrate the general effects of varying your aperture by setting it wider (lower numbers) when you want to blur the background and narrower (higher numbers) when you want to enjoy a broad depth of field and keep subjects at varying distances in sharp focus.

The blurred background look, sometimes called "bokeh," can be useful to isolate your subject by de-emphasizing a distracting background. Even with a small-sensor camera such as the HX80 or HX90V, you can achieve this effect by zooming the lens to a telephoto setting, such as 100mm or more, getting as close to the subject as possible, and separating the subject from the background as much as possible. Figure 3-12 is an image I took using that approach, to illustrate the bokeh effect more dramatically than is possible by just varying the aperture.

Here are the steps to set the aperture. After moving the Mode dial to the A setting, use the Control wheel to change the aperture. As you turn the wheel, the camera will display a sliding scale of values at the bottom of the screen, if the Exposure Settings Guide option on the Custom menu is turned on.

Figure 3-12. Blurred Background Example Using Zoom Effect

(HX90V only) You also can use the Control ring to set the aperture. If the Control ring does not change the aperture, check the setting for the Control Ring in the Custom Key Settings item on the Custom menu, as discussed in Chapter 7; that menu option has to be set to Standard or Aperture for the ring to carry out this function. If you use the Control ring to set the aperture, the camera will display a circular scale showing the changing aperture values, as seen in Figure 3-13, and the selected value will also appear in the bottom center of the screen.

Figure 3-13. Display When Control Ring Sets Aperture (HX90V)

The available aperture settings range from f/3.5 to f/8.0, though the widest settings, such as f/3.5, are available only at the wide-angle focal lengths, as discussed later in this section. In Aperture Priority

mode, the camera can select shutter speeds from 1/2000 second to eight seconds.

Although, in most cases, the camera will be able to select a corresponding shutter speed that results in a normal exposure, there may be times when this is not possible. For example, if you are taking pictures in a very bright location with the aperture set to f/3.5, the camera may not be able to set a shutter speed fast enough to yield a normal exposure. In that case, the fastest possible shutter speed (1/2000) will flash on the display to show that a normal exposure cannot be made using the chosen aperture. The camera will let you take the picture, but it may be too bright to be usable.

Similarly, if conditions are too dark for a good exposure at the aperture you have selected, the slowest possible shutter speed (8", meaning eight seconds) will flash.

In situations where conditions are too bright or dark for a good exposure, the camera's display will become bright or dark, giving you notice of the problem.

As I noted earlier, not all apertures are available at all times. The widest aperture, f/3.5, is available only when the lens is zoomed out to its wide-angle setting (zoom lever moved toward the W). At the highest zoom levels, the widest aperture available is f/6.4.

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 label. Then select Aperture Priority mode and set the aperture to f/3.5. Now zoom the lens in by moving the zoom lever to the right. After the zoom is finished, the aperture will have changed to f/6.4 because that is the limit for the aperture at the full-telephoto zoom level. (The aperture will change back to f/3.5 if you zoom back to the wide-angle setting.)

Because of the small sensor and limited aperture range of these cameras, Aperture Priority mode is not necessarily the best choice for many photographs. However, if you want to blur the background of a portrait somewhat, or you want to ensure that the depth of field for a group photo is as large as possible, keeping all subjects in sharp focus, it is useful to be able to select the appropriate aperture yourself.

Shutter Priority Mode

In Shutter Priority mode, you choose the shutter speed and the camera will set the corresponding aperture to achieve a proper exposure of the image if it can.

In this mode, designated by the S position on the Mode dial, as shown in Figure 3-14, you can set the shutter to be open for a time ranging from 30 seconds to 1/2000 of a second. 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 motion with a minimum of blur, you should select a fast shutter speed, such as 1/1000 of a second.

Figure 3-14. Mode Dial at Shutter Priority

To illustrate the effects of different shutter speeds, I photographed a cup of uncooked rice being poured into a transparent pitcher, using very different shutter speeds for two different images. For Figure 3-15, I set the shutter speed to 1/1000 second. In that image, you can see many of the individual grains of rice appearing as if they are frozen in mid-air.

Figure 3-15. Shutter Speed Set to 1/1000 Second