

particular aperture or shutter speed at the outset. If you need that degree of control, you'll need to select Aperture Priority, Shutter Priority, or Manual for your shooting mode.

There is one specific issue related to the lack of control over aperture and shutter speed when you're using Program mode. When that shooting mode is set, the Minimum Shutter Speed setting will be activated; you cannot turn it off. The slowest minimum shutter speed you can set in that situation is one second. So if you are trying to take a time exposure in a dark area (using a tripod, presumably), where the correct shutter speed would be, say, five seconds, the camera will not expose the picture properly. The minimum shutter speed setting of one second will be the longest exposure possible. If you expect to have exposures longer than one second, you need to select a shooting mode other than Program. (Namely, Manual, Aperture Priority, Shutter Priority, or certain Scene types.)

Aperture Priority Mode



You set this shooting mode by turning the Mode dial to the capital "A" that stands alone, not the "A" inside the camera icon. This mode is similar to Program mode in the functions that are available for you to control, but, as the name implies, it also gives you, the photographer, more control over the camera's aperture.

Before discussing the nuts and bolts of the settings for this mode, let's talk about what aperture is and why you would want to control it. The camera's aperture is a measure of how

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wide its opening is to let in light. The aperture's size is measured numerically in f-stops. For the D-Lux 5, the range of f-stops for still photos is from f/2.0 (wide open) to f/8.0 (most narrow). (The range is different for movies and for telephoto shooting, as discussed later.) The amount of light that is let into the camera to create an image on the camera's sensor is controlled by the combination of aperture (how wide open the lens is) and shutter speed (how long the shutter remains open to let in the light).

For some purposes, you may want to have control over how wide open the aperture is, but still let the camera choose the corresponding shutter speed. Here are a couple of examples involving depth of field. Depth of field is a measure of how well a camera is able to keep multiple objects or subjects in focus at different distances (focal lengths). For example, say you have three friends lined up so you can see all of them, but they are standing at different distances — five, seven, and nine feet (1.5, 2.1, and 2.7 meters)—from the camera. If the camera's depth of field is quite narrow at a particular focal length, such as five feet (1.5 meters), then, in this case, if you focus on the friend at that distance, the other two will be out of focus and blurry. But if the camera's depth of field when focused at five feet (1.5 meters) is broad, then it may be possible for all three friends to be in sharp focus in your photograph, even if the focus is set for the friend at five feet (1.5 meters).

What does all of that have to do with aperture? One of the principles of photography is that the wider open the camera's aperture is, the narrower its depth of field is at a given focal length. So in our example above, if you have the camera's aperture set to its widest opening, f/2.0, the depth of field will be narrow, and it will be possible to keep fewer items in focus at varying distances from the camera. If the aperture is set to the narrowest opening possible, f/8.0, the depth of field will be greater, and it will be possible to have more items in focus at varying distances.

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In practical terms, if you want to have the sharpest picture possible, especially when you have subjects at varying distances from the lens and you want them to be in focus to the greatest extent possible, then you may want to control the aperture, and make sure it is set to the highest number (narrowest opening) possible.

On the other hand, there are occasions when photographers prize a narrow depth of field. This situation arises often in the case of outdoor portraits. For example, you may want to take a photo of a person standing outdoors with a background of trees and bushes, and possibly some other, more distracting objects, such as a swing set or a tool shed. If you can achieve a narrow depth of field, you can have the person's face in sharp focus, but leave the background quite blurry and indistinct. This effect is sometimes called "bokeh," a Japanese term describing an aesthetically pleasing blurriness of the background. You have undoubtedly seen images using this effect. In this situation, the blurriness of the background can be a great asset, reducing the distraction factor of unwanted objects and highlighting the sharply focused portrait of your subject.



So, with our awareness of the virtues of selecting an aperture, on to the technical steps involved. Once you have moved the Mode dial to the A setting, the next step is quite simple. Use the rear dial to change the aperture. Turn the dial to the right to get a narrower aperture (higher number) and turn it to the

left to get a wider aperture (lower number). The number of the f-stop will display in the bottom center of the screen. The shutter speed will show up also, but not until you have pressed the shutter button halfway down, to let the camera evaluate the lighting conditions.



There's a tricky aspect to this adjustment, which is not all that clearly explained in the user's manual. I mentioned this earlier in connection with manual focus. The rear dial can be used to control at least one other function in this context, and you have to be somewhat careful to avoid slipping over into either of those functions. Here's what I mean. If you're controlling the aperture as described above, the aperture numbers will be displayed in yellow numerals on the screen. They will change as you turn the rear dial to the left or right. But if you then press in on the rear dial, the aperture numerals will turn white, and they will no longer change as you move the rear dial.

What happens here is, each time you press in on the rear dial, you trigger a different function—exposure compensation, aperture value, or manual focus if you have the focus switch set to MF. Once you have pressed in on the rear dial to activate exposure compensation, turning the rear dial will increase the brightness of the exposure (turn dial to the right) or decrease it (turn dial to the left), in the 1/3-EV increments that we discussed earlier. If manual focus is active, pressing the rear dial again will switch the dial's function to controlling manual focus. So, you may have to press the rear dial once or twice to make the aperture numbers turn yellow, showing that turning

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the rear dial now will control the aperture setting.



Here's another note on Aperture Priority mode that might not be immediately obvious and easily could lead to confusion: Not all apertures are available at all times. In particular, the widest-open aperture, f/2.0, 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 steadily, until, when the lens is fully zoomed in to the 90mm level, the widest aperture available is f/3.3.

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 select an aperture of 2.0 by turning the rear dial all the way to the left. Now zoom the lens in by moving the Zoom lever to the right, toward the T. After the zoom indicator is done showing up on the screen, you will see that the aperture has been changed to f/3.3, because that is the widest open the aperture can be at the maximum zoom level. (The aperture will change back to f/2.0 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.)

Finally, there's one more little twist involved in the setting of aperture on the D-Lux 5. The full range of shutter speeds in this mode, 8 seconds to 1/4000 second, is available only for

apertures of f/4.0 and above. If you set the aperture anywhere from f/2.0 to f/3.5, the fastest shutter speed available is 1/2000 second. This limitation is not likely to cause you any problems, but you need to be aware of its existence.

Shutter Priority Mode



The next shooting mode is a complement to Aperture Priority mode. In Shutter Priority mode, you choose whatever shutter speed you want, and the camera will set the corresponding aperture in order to achieve a proper exposure of the image. In this case, the creative considerations are somewhat different than with Aperture Priority. The D-Lux 5 has a wide range of shutter speeds available in Shutter Priority mode (the range differs somewhat in some other modes). In this mode, you can set the shutter for a variety of intervals ranging from 8 full seconds to 1/4000 of a second. (As with aperture, the shutter speed settings are different for motion pictures.) The camera will pick an aperture from its full range of f/2.0 to f/8.0, unless you set the shutter speed faster than 1/2000 second, or the lens is zoomed in. For shutter speeds faster than 1/2000 second, the only apertures available are f/4.0 and higher.

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 will want to select a fast shutter speed, such as 1/1000 of a second. At other times, for creative purposes, you may want to select a slow shutter speed to achieve a certain effect, such as leaving the shutter open to capture a trail of automobiles' taillights at night. To illustrate,

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in the example below, the top image was shot with a shutter speed of 1/100 second, and the bottom image was shot at 1/6 second, to show the effects of different shutter speeds on images of the flow of water from a large pipe into a canal.



The settings for Shutter Priority mode are, not surprisingly, quite similar to those for Aperture Priority mode. You select the mode by setting the Mode dial on top of the camera to the S indicator. Then you select the shutter speed by left-and-right motion of the rear dial. Turn the dial to the right for faster (shorter) shutter speeds, and to the left for slower (longer) ones. The camera will then select the appropriate aperture to achieve a proper exposure, when you press the shutter button halfway down.

Once you've pushed the shutter button halfway down, you need to watch the colors of the shutter speed number and the f-stop number on the screen. If the numbers turn red, that means that proper exposure at that shutter speed is not possible at any available aperture, according to the camera's calculations. For example, if you set the shutter speed to 1/320 of a second in a fairly dark indoor setting, the shutter speed number and the aperture number (which will be f/2.0, the widest setting, if the zoom is set to wide angle) may turn red, indicating that proper exposure is not possible. One good thing in this situation is that the camera will still let you take the picture, despite having turned the numbers red to warn you. The camera is saying, in effect, "Look, you may not want to do this, but that's your business. If you want a dark picture for some reason, help yourself." (Note: This situation is less likely to take place when you're in Aperture Priority mode, because, unlike the situation with f-stops, there is a wide range of shutter speeds for the camera to choose from; a range from 8 seconds to 1/4000 second (or 1/2000 for wider apertures, as noted above). So no matter what aperture you select, there is likely to be a shutter speed available that will result in proper exposure.)

On the shutter speed display, you should be careful to distinguish between the fractions of a second and the times that are one second or longer. The D-Lux 5 has a good display in this regard, because it displays the fractions with a divider line, as in 1/2 and 1/125. One aspect of this display that can be somewhat confusing is that some of the times are displayed as a combination of fractions and decimals, such as 1/2.5 and 1/3.2. I find these numbers a bit hard to translate mentally into a time I can relate to. Here is a table that translates these numbers into a more understandable form:

1/1.3	0.77 or 10/13 second
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1/1.6	0.625 or 5/8 second
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1/2.5 0.4 or 2/5 second

1/3.2 0.31 or 5/16 second

Also, as with Aperture Priority mode, the rear dial serves two (or three) functions in Shutter Priority mode. If the shutter speed numbers are yellow, you are controlling the shutter speed, but if the shutter speed numbers turn white, then you will see yellow figures for the exposure compensation display (or the letters MF may turn yellow, if manual focus is in effect, meaning the rear dial now controls manual focus). You will have to press in on the rear dial once (or twice) more to get back to controlling the shutter speed with the rear dial.

