

How to Get Out of Auto Mode

Understanding the exposure triangle

The look of a photo is defined by three critical elements: aperture, shutter speed, and ISO.

1. APERTURE

The aperture refers to the physical hole in your lens that light travels through. You can think of it like the human iris — in bright light, the aperture is narrow, just like your iris. In low light, the aperture is wide. Aperture is measured in f-stops. The smaller the f-stop, the larger the aperture. The larger the f-stop, the smaller the aperture.



Wide aperture (low f-stop)

Wide aperture (low f-stop) Wide apertures are best for low light conditions or to achieve a shallow depth of field. Therefore, wide apertures are ideal for night photography and portraits.

Nikon D850, 14mm, ISO 800, f/1.8, 20 sec

Narrow aperture (high f-stop)

Narrow apertures are best to achieve a large depth of field, such as for landscape images where you require the foreground and distant background to both be in sharp focus.

Nikon D850, 16mm, ISO 100, f/16, 0.5 seconds



2. SHUTTER SPEED

Probably the easiest concept to understand is shutter speed. Simply put, this is the length of time the shutter remains open for light to be captured by your camera's sensor.



Fast

A fast shutter speed is best for action shots with moving objects where you want to freeze a moment in time. Fast shutter speeds are useful for subjects like sports, planes, and cars.

Nikon D850, 110mm, ISO 320, f/5, 1/4000 seconds

Slow

A slow shutter speed means keeping the shutter open for an extended period of time. This can be a creative decision to capture movement, or it can be a technical choice when a long shutter is necessary to expose correctly in low light conditions.

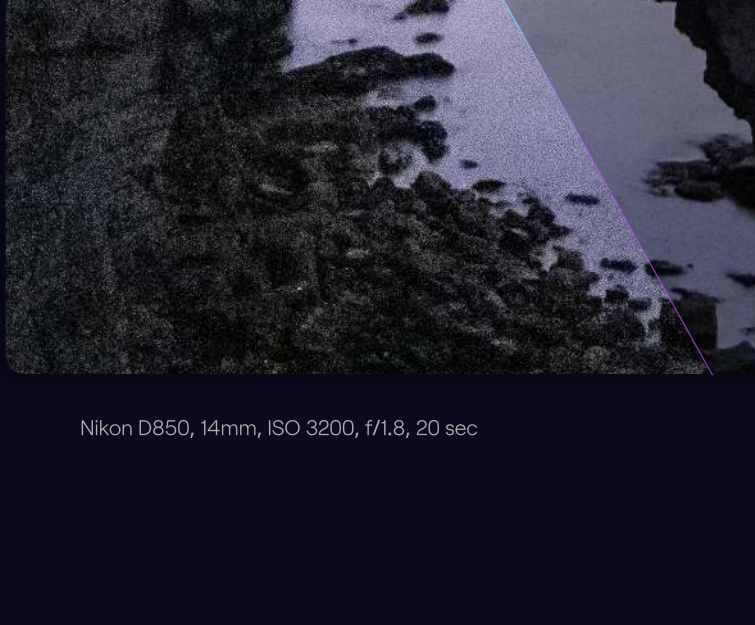
Nikon D810, 12mm, ISO 200, f/8, 20 seconds



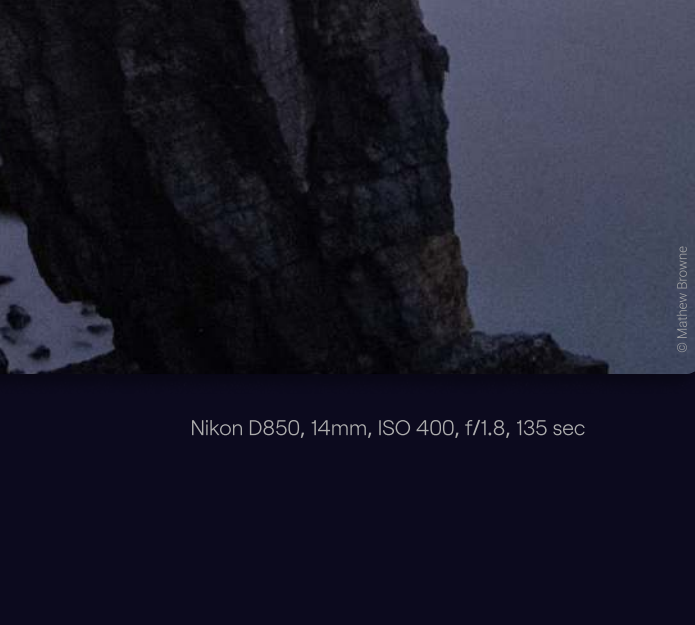
3. ISO

ISO is a unit of measurement that has rolled over from the days of film. A high-ISO film such as ISO 800 or ISO 1600 is good for capturing images in low light. However, this increased sensitivity means the images are grainier.

These nighttime images are similarly exposed, but using different ISOs. At a high ISO, a clear image was captured in 20 seconds, whereas at a lower ISO, over two minutes was required to achieve an equivalent exposure.



Nikon D850, 14mm, ISO 3200, f/1.8, 20 sec



Nikon D850, 14mm, ISO 400, f/1.8, 135 sec

Understanding your camera's settings

Now that we have learned about the exposure triangle, let's put it all together in practice by understanding how your camera interprets it.

1. PROGRAM / AUTO

In Program mode (P), the camera selects both the aperture and shutter speed. In full Auto mode (A), the camera also selects the ISO for you. These are reliable options for situations with good lighting where you need to capture a shot quickly, but with these modes the camera takes all the creative decision-making out of your hands!



Nikon D850, 200mm, ISO 250, f/5.6, 1/2000 seconds

2. APERTURE PRIORITY

In Aperture Priority mode (A or Av), you select the aperture and the camera calculates the rest of the settings for you. The primary function of this mode is to allow you to control depth of field, but in low light conditions, it can also be used to maximise the amount of light captured by selecting the widest possible aperture (the lowest f-stop).



Nikon D850, 35mm, ISO 400, f/1.6, 1/1000 seconds

3. SHUTTER PRIORITY

In Shutter Priority mode (S or Tv), you specify a shutter speed and the camera adjusts the other settings to match. If you want to capture fast-moving objects and freeze them in motion, you can typically choose 1/1000s or above and shoot away. To convey a sense of movement, choose a longer exposure over a period of seconds.



Nikon D850, 12mm, ISO 200, f/4, 4 seconds

MANUAL

Your final hurdle will be to master the full Manual mode (M). Here you control the aperture, shutter speed, and ISO. This mode is best deployed when Aperture Priority or Shutter Priority don't quite fulfil your creative need. Perhaps the camera isn't metering properly in darkness, or there are moving lights in your scene that fool the camera into thinking it's brighter or darker than it really is. This is the time to switch to Manual for full control of the exposure.



Nikon D810, 16mm, ISO 100, f/8, 20 seconds