

Proper Exposure for Night Photography

Night photography can be much more rewarding than photography during the day. Because everything looks different at night, you don't need to go somewhere exotic to get great pictures. Bridges, attractions, and buildings are usually brightly lit at night, and places that might seem rather pedestrian during the day – can make stellar photography subjects at night. Furthermore, you can take your time when photographing at night, more so than during the day. There are generally less people out, and you don't have to worry about the light changing.

The main challenge when photographing at night is getting a proper exposure. During the day, you can just walk around and hand-hold your camera without worrying about camera shake. In addition, because of the amount of available light during the day, you don't need to worry about shooting at a high ISO and the resulting digital noise. At night, however, hand holding is generally not an option and digital noise can be a major problem.

The principles of exposure work the same way at night as during the day – you will just need a lot more time to allow light into your camera. It goes without saying that you will need a tripod to stabilize your camera, and a remote shutter release to keep from moving anything during the exposure. But with these changes made, you can get out and explore the night with your camera. When you do, here are some tips to keep in mind to help you maximize the experience.



Shutter speed of 4 seconds; aperture at f/5.6; ISO 400.

1. Work in Manual Mode

The first tip is to make sure you are shooting in Manual mode. In Manual mode, you will set the shutter speed, aperture, and ISO. This puts you in complete control over your camera.

When shooting at night, your camera will be on a tripod and you will be working slowly. Be careful where you erect a tripod, especially in a public place. Pedestrian safety is paramount here, and councils may require a permit if you are taking up space in this manner, so be aware.

There is no need to use any automatic mode because of the speed provided. Further, there might be a little trial and error with the exposure settings (the camera can be easily fooled by the great differences in bright and dark areas of the picture) and you want to make sure you have plenty of control over this process. Manual mode gives you that control.

#2. Make sure you are comfortable with Bulb Mode

Manual mode only works for exposures up to 30 seconds. If you need a shutter speed that is longer than 30 seconds, the only option for getting a proper exposure is Bulb mode.

Therefore, while you should generally shoot in Manual mode, you should also be comfortable with Bulb.

In Bulb mode, the shutter stays open as long as you hold the shutter button down. When you press the button, the shutter opens. When you release the button, the shutter closes. To avoid introducing any shake or movement into the exposure, using a remote shutter release is imperative when using this mode.

With Bulb mode you can make your exposure several minutes long. If your remote shutter release does not have a timer built-in to it, make sure you keep another timer handy (your phone may have one). If your remote does not have a timer, make sure it has a locking feature, so you do not have to hold it the entire time.

#3. Shoot in Raw

When shooting at night, it is particularly important to make sure you are shooting in Raw format. The Raw files coming out of most cameras are 14 bit files, whereas JPEGs are only 8 bit files. The more bits, the higher the range of available colours and the smoother the transitions between them.

The reason shooting in Raw is even more important at night, is that most of the colours that a camera can capture are at the top (bright) end of the scale. The range of available colours at the low (dark) end of the scale is extremely limited. At night, your pictures will almost always include a large dark portion. A JPEG file, with its reduced colour options, you will likely introduce banding in your pictures.

#4. Bring a flashlight

Knowing your camera controls really well pays dividends at night. You can make changes to the settings without being able to see everything. Nevertheless, a small flashlight is tremendously useful. Keep one handy to make sure you can see everything on your camera and tripod. It occasionally comes in handy for lighting areas of your picture as well.

#5. Choose proper settings

Proper settings will always depend on the situation. Nevertheless, there are some ways you should bias your settings when shooting at night. Here are a few:

- **Aperture:** Open up your aperture more at night than you would during the day (i.e., use a lower f/number). Most night photographs tend to be of shots on a narrower plane than shots during the day. Further, the background and sky will be black anyway and you will not need as large a depth of field. The larger aperture also has the benefit of letting more light into the camera.
- **ISO:** Keep your ISO setting as low as you can. Night photography always means there will be dark areas in your pictures, and these dark areas inevitably lead to digital noise. Raising the ISO will compound the problem.
- **Shutter speed:** Whereas shutter speed might be the first exposure setting you worry about during the day, it should generally be the last one you think about at night. Since you will be shooting from a tripod, you can let the shutter stay open as long as you need. If you have traffic (streaking lights), a fountain, or running water in your picture, the longer shutter speed will actually benefit your pictures anyway. The only exception is high winds, or other instability impacting your rig.

One other setting to check is the Long Exposure Noise Reduction, which will be in your camera's menu. If you enable this option, the camera will make two exposures, one normal and one with the shutter closed, which the camera will use as a comparison to filter out noise from the normal picture. Photos taken with this option enabled will take twice as long to expose, but will be less noisy.

#6. Meter for the highlights

Determining the proper exposure level can be tricky at night. Each metering mode presents its own challenges. If you use evaluative metering, the camera is likely to be confused. If you use spot or partial metering, the meter will jump around depending upon whether you are aimed at a bright light or the dark background.

One answer to this problem is to use spot metering and to expose for the highlights. Set your meter between +1 and +2 as you meter on the highlights. These settings will keep your highlights looking bright, but at the same time, will keep the highlights within the dynamic range of the camera. Do not worry as much about the dark portions of the picture. If the dark areas happen to turn black, well, it is night-time after all, and there is supposed to be some black. Take a test shot and adjust as necessary.

#7. Take a test shot at a high ISO

Speaking of test shots, you should make liberal use of them when shooting at night. However, you don't want to sit around for 30 seconds, a minute, or even longer, waiting to see if the test shot is going to work out. The best way to get a test, without wasting a lot of time doing so, is to take one at a much higher ISO than you would ordinarily use.

For example, let's say you think the proper exposure settings for a given shot are: 30 seconds at f/5.6 with an ISO of 400. Rather than taking that shot and waiting around 30 seconds for the exposure, crank up the ISO and speed up the shutter speed by the same number of stops. The exposure level will be the same, but it will take a lot less time to expose the test picture. In this case, I would raise the ISO by four stops to ISO 6400 (raising it one stop to moves it to ISO 800, one stops increases it to ISO 1600, three stops to ISO 3200, and four stops gets you to ISO 6400). That allows you to reduce your shutter speed by four stops to only 2 seconds (reducing the shutter speed by one stop shortens it to 15 seconds, two stops shortens it to 8 seconds, three stops to 4 seconds, and four stops gets the shutter speed down to 2 seconds).

When you are satisfied with your exposure, just decrease the ISO and increase (lengthen) the shutter speed by an equal amount to get back to the final settings.

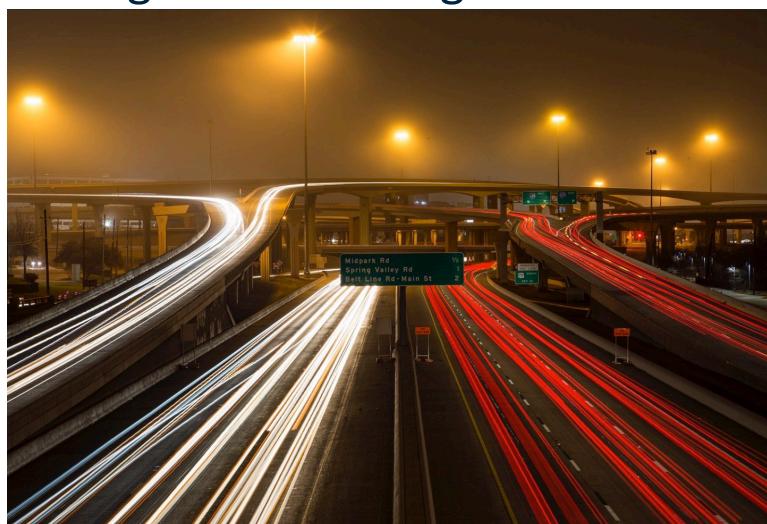
#8. Bracket your photos

Night photography is one area where you will want to bracket your photos. Blending and HDR can work wonders at night, but even if you are against such processing, bracket your photos anyway. Think of it as exposure insurance.

#9. Verify the exposure with the Histogram

After you have taken your exposures, check them on the LCD on the back of your camera. The picture on the LCD will show you if the exposure is close to correct, but it is better to also check the histogram to make sure the exposure is within the dynamic range of your camera. Remember to keep the highlights on the right side of the histogram but avoid a spike on the far right. If the dark areas spike on the left side the histogram, that is okay since parts of your picture are supposed to be black. In general, however, keep as much of the image as possible within the range of the histogram, but err on the side of keeping the highlights from blowing out.

Car Light Trails at Night



A really fun thing to include in your night photos is streaking light trails from moving cars. These are created when a car or other vehicle drives through the frame while you have the shutter open. The camera picks up the lights, but since the car has gone all the way through the frame while you had the shutter open, it

shows up in your picture as streaks of lights.

Try to time your pictures so that vehicles move all the way across the frame while you have the shutter open.

Exposure: shutter speed 20 seconds, aperture f/16, ISO 100.