

Chapter Three: Getting Started with a Still Platform

With the Earth constantly rotating, it may seem that astrophotography must be done using a device that tracks the night sky. Otherwise the images will come out blurry, like taking an image of somebody running while using a long exposure. Yet, there are several types of shots that not only benefit from using a still platform, but require it.

TYPES OF STILL PLATFORMS

My definition of platform throughout this chapter will be very broad. Here, platform will mean anything that can be used to hold a camera still over any period of time, such as a standard camera tripod. Holding a camera with your hand will work for some daytime images, where light is plentiful and the length of an exposure is a fraction of a second. However, this generally will not work for nighttime shots where longer exposures are required.

When deciding whether an image can be taken by hand or if one must use a tripod, the general rule is that $1/\text{focal length}$ is the maximum exposure length in seconds that can be taken. For example, if you are using a lens with a focal length of 100mm, the longest exposure time that the average person can use to shoot with the camera in-hand is $1/100$ th of a second. Similarly, when shooting with a lens that has a focal length of 20mm, the longest hand-held exposure is typically $1/20$ th of a second.

Please note, the $1/\text{focal length}$ rule is just a guideline, and does not take into account the crop factor of the camera. So, when using a camera with a crop factor of 1.6x, a lens with a focal length of 100mm would have a maximum handheld exposure length of $1/160$ th of a second.

With very few exceptions, this means nighttime shots need to be taken from a still, unmoving platform. When deciding what to use to steady the camera, there are a couple of things to keep in mind:

- 1) Wind: whether a small gust or larger gales, wind can ruin a shot. While sustained winds can ruin a whole evening, the effects of an occasional breeze can be avoided by remembering the following tips.
 - **Use a sturdy surface such as a strong tripod, the ground, or a sturdy wall upon which to mount the camera.**
 - **Shoot from as close to the ground as is comfortable.** When shooting objects solely in the night sky, the final image will look exactly the same whether you are shooting from ground-level or from 6 feet above the ground. The exception to this is when you are



shooting the night sky and including the Earth or Earth objects in the image. In those cases, where the camera is mounted is more critical to the shot.

- 2) Ease of adjusting the camera or camera settings: getting the perfect setting to use on a shot can only come from trial-and-error. So you will likely be fiddling with the camera controls frequently. There are too many unknowns such as amount of light, brightness of object, sky conditions, light pollution, and so on to accurately predict what the settings for your final picture will be. Your initial guesses at settings will improve over time, but there will always be some tweaking of the settings needed to get the final picture. **Be sure that no matter where the camera is mounted, that you will be able to adjust the settings, as well as see either the viewfinder or the final picture, to be able to position the camera correctly.**
- 3) Do not be afraid to get creative with your platform choice: while a tripod or pier is generally considered to be the best choice for holding a camera steady, other objects can work just as well, such as a wall, a ledge, or even a beanbag on the ground or table.

Once, I was out camping with some friends and I was using a DSLR to take daytime snapshots, so I did not have a tripod with me. Later that night, a huge storm moved past us. Along the horizon we could see impressive lightning strikes and the sky above our heads was perfectly clear and the stars just popped out. I had to get some pictures, so I set my camera on top of a plastic container, using a wrench to prop-up the lens to get a good view.

- 4) Be comfortable: Very similar to number 2, but very, very important. If every time you go to shoot something you have to bend over and turn your head to the side just to see the screen or buttons on the camera, the experience will not be enjoyable, especially if you have to stay in that position for a long period of time.