

Basic Camera Settings for Milky Way and Aurora Photography

1. Set Quality to RAW
2. Use your camera's Highest Useable ISO setting, ideally between 3200 and 12800. You should do testing to determine what is the highest useable ISO for your camera based on your final presentation. For example will you be showing images online only, or making large prints? You may be able to shoot at 6400 for web use, but only 1600 for prints. Note that the highest useable ISO will vary depending on ambient temperature. The warmer it is, the lower the highest useable ISO. You have to decide how much noise is acceptable to you for your intended use of the image.
3. Set White balance to Auto, and use that if you like the results. Otherwise, try setting the WB between 3700K- 4100K for Moonlight, 4000-5500 if there is no moon. Try to approximate the desired look in camera. You should not make large shifts in White Balance in post if possible.
4. Set your camera's Long Exposure Noise Reduction to Auto (if available). If your camera doesn't have auto as an option, testing will be required to determine when it is needed. In general, the newer the camera, the less likely you will need it. All cameras need LENR in high temperatures, and all will benefit from enabling it. The determining factor is whether or not you are willing to wait for it, but with exposures in the 15-30 second range, the wait should not be unbearable.
5. Enable your camera's RGB histogram- primary exposure determinant in natural light.
6. Enable the blinking Highlight indicator primary exposure determinant in artificial light, and best way to see if you have clipped highlights from your light painting. Some cameras do not have an option to enable the setting, it's always on.
7. Set the LCD brightness to one or two levels above the lowest setting.
8. Set Exposure Mode to Manual.
9. Set focus to Manual.
10. Turn off IS/VR lens functions
11. Use flashlight assisted magnified Live View if you have important foreground elements, or conservative, well executed hyperfocal distance for focusing. When using hyperfocal focusing, I recommend using the distance for one stop wider than your actual aperture setting. For example, if you are shooting at f4, use the HFD for f2.8. If you have no foreground elements, infinity focusing is ok. Prefocus at infinity in daylight using autofocus, then switch to manual focus and tape the focus ring in place with gaffer's tape.
12. Learn to use camera info rear screen controls and button. You won't be able to see them at night! (Unless you have a D4 or D4s)

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13. If you are very familiar with your camera's controls and menus, consider programming one of your camera's custom functions for high ISO night photography.
14. Set Picture Style to "Neutral" for the sake of histograms and image previews.
15. AutoLighting optimizer, Highlight Tone Priority, D-Lighting, High ISO Noise Reduction, and other similar features are designed for JPEG shooters and have no effect on the manually metered RAW exposures- unless you are using your Camera Manufacturer's software to process your files. However, these settings will be reflected in the image preview and histogram on the back of the camera, which is why they should be disabled.
16. Organize your camera bag in a logical way, and always keep everything in the same place, making things easy to find in the dark.
17. Work carefully and methodically. Pay attention to details.
18. Keep your camera bag in front of you. Under your tripod is a good place for it. Stay alert to your surroundings.
19. Use a dim or red flashlight for finding things, a bright one for focusing. Avoid using headlamps, especially in groups.
20. Once you are comfortable and confident with your gear, you can concentrate your energy on the creative rather than the technical process. Have fun!