

Night Sky Photography – Terry Butler



The Milky Way

Challenges

When

The Milky Way is there all the time, but the most photogenic part, the core, in the northern hemisphere is seen generally in the southern sky reaching up from the horizon during the summer months.

Dark Sky

Shoot with a cloudless, moonless sky between the 2 hours after sunset and the 2 hours before sunrise.

Light Pollution

Find a location with as little as possible light pollution. Use Dark Sky Finder or Blue Marble.

Focus

Getting focus in a dark environment is nearly impossible at night. During the day focus on an object 50 feet or more away and mark that on your lens. Or, at night place a flashlight 50 feet or more away and focus on that. Or focus on a bright star using Live View. After you get focus, **be sure to turn off auto focus on the lens.**

Equipment

There is a definite advantage when shooting the Milky Way to have a wide angle lens (which captures more of the sky and allows a longer exposure before introducing star trails), a “fast” lens (f/2.8 or faster) and to have a full frame camera (which handles noise the best).

How to Shoot the Milky Way

Find a location with little light pollution. Consult Dark Sky Finder or Blue Marble.

Shoot on a cloudless night with no moon.

Shoot between the 2 hours after sunset and the 2 hours before sunrise.

Manual focus - if including a foreground element, use the hyperfocal distance or use infinity. It is easier to find infinity on your lens during the day.

Take a test shot at high ISO to check the composition.

Suggested Camera Settings

Shoot in Manual Mode

First set the time using the 500 Rule to avoid star trails.

Set the aperture to the widest opening (the smallest number).

Use ISO to control the exposure. Light polluted areas need a lower setting (ISO 3200). For non-light polluted areas, use ISO 6400.

Daylight or Tungsten white balance.

Use long exposure noise reduction or take dark frame(s).

500 Rule to eliminate star trails

500 Rule

$500 / \text{focal length} = \text{seconds}$

Focal Length	Seconds	
	Full F	Crop F
14	36	22
16	31	19
24	21	13
35	14	8
50	10	6

450 Rule

$450 / \text{focal length} = \text{seconds}$

Focal Length	Seconds	
	Full F	Crop F
14	32	20
16	28	17
24	19	11
35	13	8
50	9	5

