

On Site

Tripod set up – no leaning (center column should be vertical) – leg locks tightened.

Camera aimed, leveled.

Camera locked onto tripod. Head tightened.

Tripod weighted/secure and everything is wobble free.

Keep the tripod low and out of the wind for best stability.

Do not extend the center column.

Neck strap removed or secured to prevent wind throw.

Intervalometer and any other cord, or wiring also secure.

Velcro on the intervalometer and the tripod leg is a handy trick.

Save GPS coordinates and/or mark site with glow stick / other?

Suggested Camera Settings

(One Method)

Manual Mode, Bulb exposure
ISO 200 (*varies but from 100 to 800*)

Single Exposure
LCD brightness down
Image review time off
Record in RAW
White Balance = *daylight* (Auto not recommended)

Aperture *f/4* (f/2.8 to f/7.1)
Auto focus OFF
Image stabilizer (vibration reduction) OFF
Long Exposure Noise Reduction OFF
Mirror Lockup OFF
Auto Exposure Bracketing OFF

Timer Setup And Test

No delay, length of exposure = 1:59 minutes (adjust based on conditions. A 2 minute total interval is a good starting point), interval = 1 second, number of exposures > or = 120

Timer cabled to camera

Test sequence (lens cap on) – Verify that second shot starts before canceling.

Focus and Final Framing

Check image composition, field of view.

Set camera to Aperture priority mode (not needed if it is already dark)

Take several bracketed shots in daylight or twilight: if it is already dark take a high ISO “range finding” shot. E.g. 2000 ISO for 30 seconds.

Pixel peep and adjust focus until sharp.

Final Steps

Check for wobble. Start by lightly jostling the camera, tripod, center column and even walking around in the area to make sure no movement occurs.

Set DELAY on interval timer appropriately (at least 5 seconds). Goal is to start and/or end in twilight.

Secure cables for timer, external batteries (and neck strap). Do not block battery or memory card access.

Switch to aperture priority mode (so that your manual settings do not change), take a single image and re-verify focus. If already dark, take a high-ISO range finding shot for this task.

Switch back to Manual/Bulb.

Verify all camera settings as described in Camera Settings

Start Timer and verify that the timer is running.

If practical wait for first two shots to complete.

NOTE: You can leave the lens cap on for the first few exposure to collect DARK frames.

Post Processing

- StarStax (Free)
- Star Stacker (Free)
- Sequator (Free)
- Starry Landscape Stacker (**Mac only**) (\$29.99)
- Advanced Stacker Plus (Star Circle Academy) (\$41.00)