

## Equipment Checklist

- Camera
- Lens
- Lens filter (e.g. ND filter)
- SmartTimer or intervalometer
- Camera shutter release cables
- Tripod
- Ball head
- Mounting screws + tools
- Batteries, spare battery
- Power bank
- Camera charging cable
- Lens cleaner
- Lens heater
- (second) SD card
- Slider, motorized rotating head

## Tips

### Make sure:

- That there is enough space left on the memory card
- Battery power is sufficient (or connect a power bank)
- Your ball head is tightened so you don't change the camera angle when adjusting settings)
- Power saving options of the camera are activated, e.g. the airplane mode

## What to check:

- Weather
- Sunrise or sunset direction
- Shadow of mountains and buildings (see on [this website](#) how they move)
- Sunset/ sunrise time - [this website](#) is helpful (the time depends on the altitude and location, take into account obstacles that may interfere with you)

## Set Up

### 1 Choose location

- Set up tripod and camera (e.g. in direction to the sunset: plan sun movement on [this website](#) or with the PhotoPills App)

### 2 Change camera settings:

- Set Focus to manual and adjust focus (*hyperfocal distance* is recommended)
- Stars: set focus distance to infinity (tip: open up your aperture and use your camera's focus magnifier to set focus)
- Set photo format to raw/ dng
- Activate silent shutter release
- Disable lens and sensor stabilization (to avoid blurred images during long exposures)
- Disable Long Exposure Compensation (on Sony cameras it's called Long Exposure NR - when shooting timelapses, the post processing increases sensor temperature and thus noise, additionally it shortens the time you can adjust settings between shots)
- Set the aspect ratio to the sensor size for full sensor readout - usually this is 4:3 or 3:2, this allows more freedom in post processing (reframing & cropping)

#### Tips:

- Do not change lenses in cold environments with high humidity to avoid condensation on the lens inside and on the sensor
- Clean your lens and sensor

### 3 Set exposure to manual and:

- Set ISO as low as possible
- Set aperture to a higher number (eg. F11) to increase focus depth
- Adjust shutterspeed accordingly (make sure the camera finishes processing the image before the next shutter signal)
- Adjust white balance

### 4 Set interval triggering:

- Set interval (time between shots) on camera or on Intervalometer (Note: must be greater than exposure time and must include a buffer time)
- Set number of shots or the duration you want to shoot (the final video duration after export is calculated from the frame rate [FPS] and the total number of shots)

### 5 Start your timelapse