



Circa 1917 "Kodak Girls"

## SOCIAL MEDIA & LINKS

**@roycebairphoto** - *my Instagram*  
(featuring other NightScapers)



**FB.com/groups/nightscaper**  
*NightScaper Facebook group*



**RoyceBair.com** - *NightScape Blog*  
(free tutorials & equipment advice)

**NightScapeBook.com** - *my eBook*

**NightScaper.com**  
*NightScaper Conference*

**LowLevelLighting.org**

**royce.bair@gmail.com**





# Free NightScape Tutorial

Watch my 90-minute YouTube tutorial:  
*"Creating Natural NightScapes"*

Go to [www.RoyceBair.com](http://www.RoyceBair.com)  
Scroll to the bottom of most posts and click on this banner

**ROYCE  
BAIR.COM**



# MILKY WAY NIGHTSCAPES

an eBook by  
ROYCE BAIR

25% OFF

Use Discount Code:

**BFACC**

Order at:

[www.NightscapeBook.com](http://www.NightscapeBook.com)



# LENR Star Trails Exposure FORMULA

- Set ISO to 125 (*ISO 100 to 160*)
- Turn ON Long Exposure Noise Reduction mode

## Star Trail TIME

## Use this APERTURE

30 minutes

f/4.0

45 minutes

f/4.5 or f/5.0

60 minutes (1 hour)

f/5.6

90 minutes

f/6.3 or f/7.1

120 minutes (2 hours)

f/8.0

180 minutes (3 hours)

f/9.0

*Not recommend without*

240 minutes (4 hours)

f/11

*heat sink & add'l power*

- After initial exposure, camera will take a dark exposure for the same time period
- Do NOT turn off camera's power until process (double time) is complete.
- Turn OFF Long Exposure Noise Reduction mode for other types of photography





## Using "Path Blur" to enhance your star trails

Path Blur is a Photoshop  
Filter in the Blur Gallery.

Select the sky, then use the  
path tool to follow multiple  
concentric arcs in your  
images. Adjust the "Speed"  
(length) and "Taper" of the  
blur to your tastes.





# Milky Way seasons



APR

MAY

JUN

JUL

AUG

SEP

E

SE

S

SW

W

Monthly Movement of the Milky Way in Grand Teton National Park  
(shown for the 11th day @ 2:00 AM)

ROYCE



**Search on “Dark Sky Finder” & “Dark Site Finder”  
for light pollution maps**



**PhotoPills**



**Sky Guide**

**Use these apps to locate the position of the Milky Way**



# The NightScape Exposure “Dance”

Shutter speed



30"

Aperture



f/2.8

ISO speed



ISO 6400



# Ways to reduce NightScape noise:

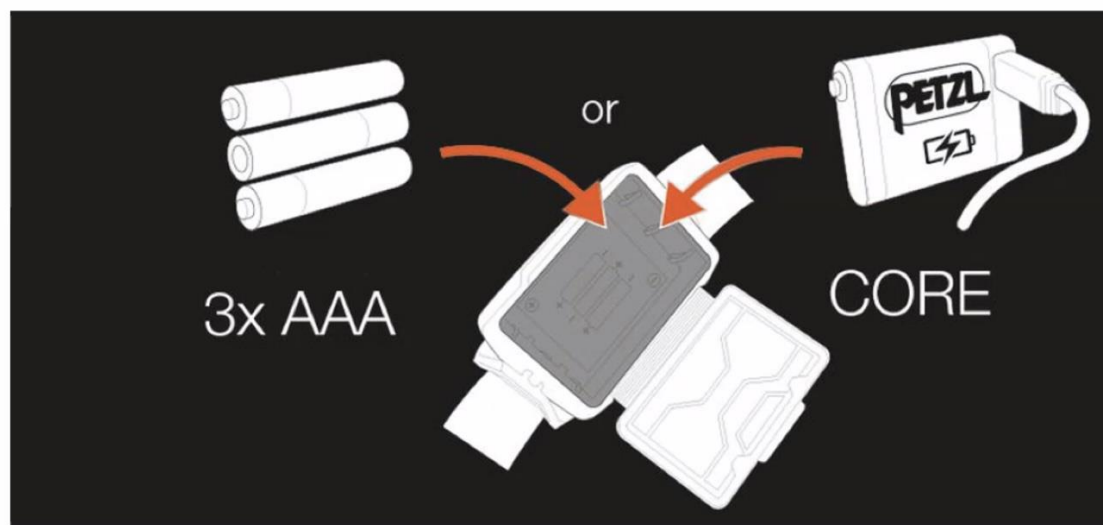
1. Exposure stacking
2. Enlarge via multiple image  
“pano” stitching
3. Tracking
4. Combine 1 and 2
5. Combine 1 and 3
6. Astro-modification



# PETZL ACTIK CORE



**Hybrid**  
CONCEPT®



## White Lighting Performance

"Incognito" - Max Burn Time

7 lumens brightness

10 meters distance

100 hours burn time

## STANDARD

100 lumens brightness

60 meters distance

7 hours burn time

## MAX POWER

600 lumens brightness

115 meters distance

2 hours burn time

## Red Lighting Performance

2 lumens brightness (continuous)

5 meters distance / 60 hours

Strobe: visible at 700 meters  
for 400 hours



# Nitecore Tube v2.0

USB Rechargeable  
Keychain  
Flashlight



FL1 STANDARD	HIGH	LOW
	55 Lumens	1 Lumens
	1h 15min	58h
	25m	3m
	156cd	2.2cd
	1m (Impact Resistance)	
	IP65 (Rating)	