Astrophotography

Photographing the night sky without ridiculously expensive equipment

STARGAZING LIVE

Dr Steve Barrett 18 Jan 2012

Astrophotography

What can be done with a camera and …

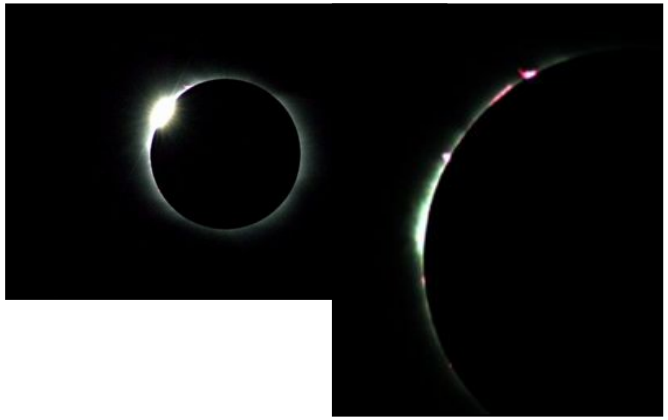
… nothing else?

… a DIY star tracker?

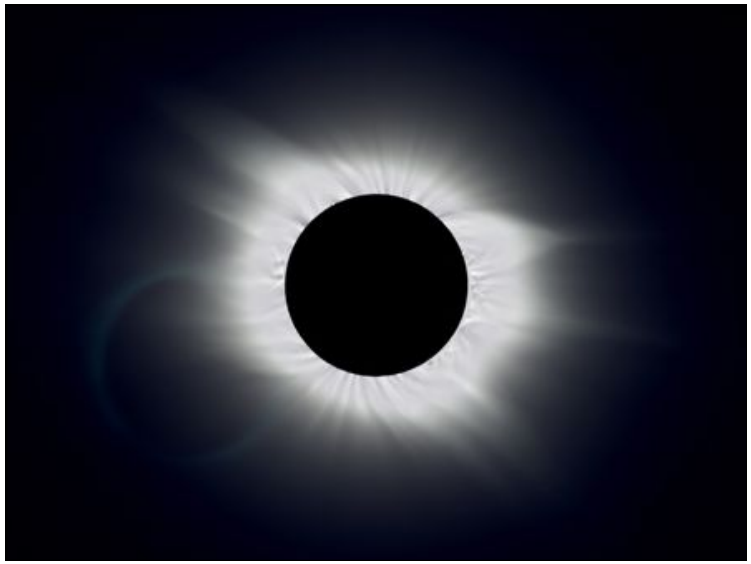
… an amateur telescope?

Aurora Borealis

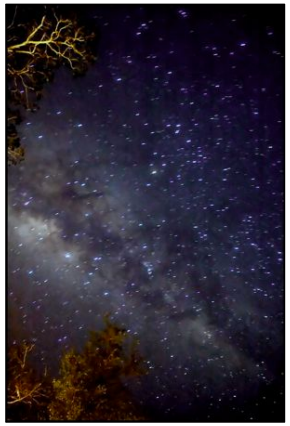
Solar Eclipse



Astrophotography / Fixed / Solar Eclipse 5



Star Trails



Astrophotography / Fixed / Star Trails 7

Tracking the Stars

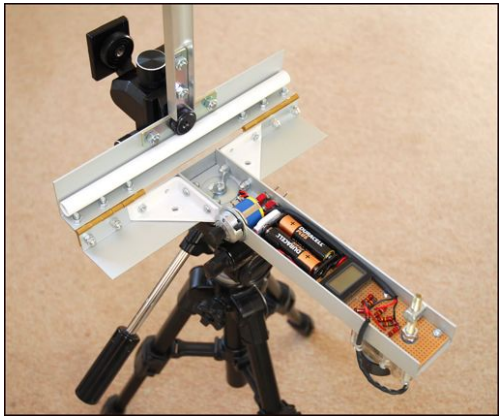
How can the sky be photographed without the stars trailing?

Build a device to compensate for the Earth's rotation — a star tracker.

Ideally...	For K2 this means...
Compact	Footprint no larger than A4
Light	Less than 1 kg
Strong	Able to support a digital SLR
Accurate	Exposures of up to 15 minutes
Battery operated	AA batteries
Low power	Run for ~ 6 hours
Cheap	Cost < £50 for all components
Easy to construct	Manual tools (no workshop)

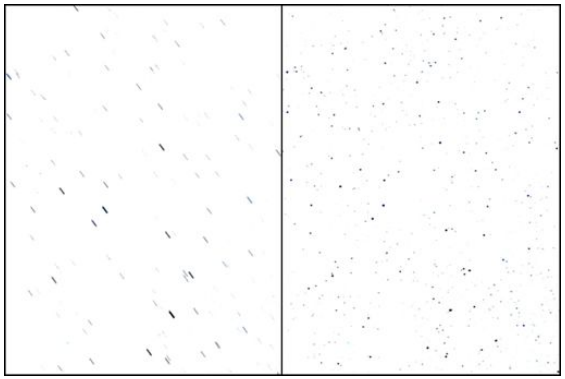
Astrophotography / Star Tracker 8

K2 Star Tracker



Astrophotography / Star Tracker 9

K2 Star Tracker



K2 off K2 on

Astrophotography / Star Tracker 10

Tracking the Stars

Telescopes

Astrophotography / Telescopes 12

Saturn Video

Astrophotography / Telescopes / Saturn 14

Orion Nebula

Astrophotography / Telescopes / M42 Orion Nebula 15

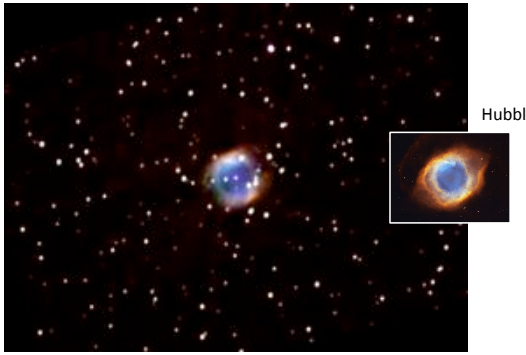
Pleiades Cluster

Astrophotography / Telescopes / Piggy-Backing / M45 Pleiades 16

Andromeda Galaxy

Astrophotography / Telescopes / Piggy-Backing / M31 Andromeda Galaxy 17

Helix Nebula



Astrophotography / Telescopes / Piggy-Backing / C63 Helix Nebula 18

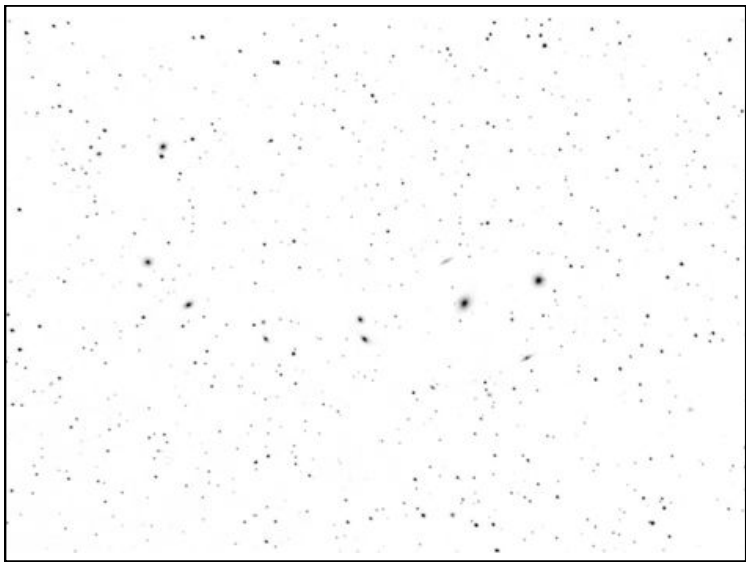
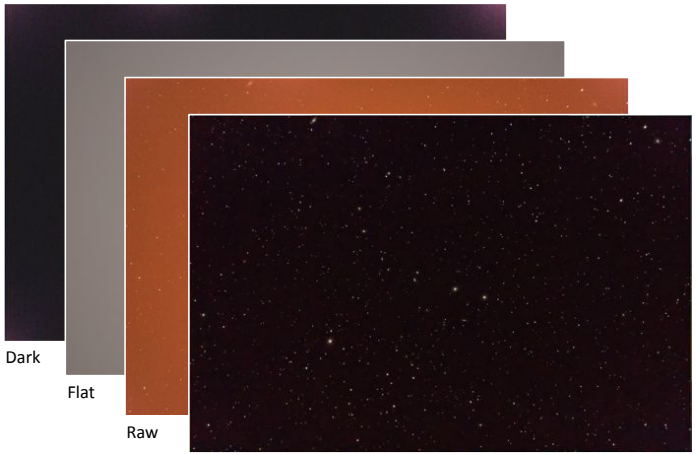


Image Processing



Astrophotography/ Image Processing / Markarian's Chain 21

Image Processing

Astrophotography/ Image Processing / Andromeda Galaxy 22

Deep Sky Photography

Astrophotography/ Image Processing / Rosette Nebula 23

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