Time lapse video using DSLR Cameras and Adobe Software

with Aaron Vezeau

want2record@gmail.com
- Planning
- Equipment
- Software
Planning
“Start with The End In Mind”
Time-Lapse Video with Aaron Vezeau

Runtime
1 hr. 30 min.
2 Methods

Video Time Stretch

&

Capturing Image Sequences
Process Comparison

- Snack or Meal?
- How much time to eat?
- What and Where?
- How long to Cook
- Tools (knife, cut board, etc.)
- Wash & Prepare ingredients
- Start Cooking
- Wait
- Re-season
- Plate
- Consume

- Still or Video?
- Final Video Length?
- Subject and Location
- Total Real World Time
- Equipment (cam, tripod, etc.)
- Set Exposure & Intervals
- Start Exposing
- Wait
- Image Process & Video Editing
- Output & Deliver
- Watch
Equipment
Digital Single-Lens Reflex (DSLR)
Why DSLR?
4K
Basic Equipment
Intervalometer

Nikon

Canon
Interval Timer
“Exposure Time”
Interval Timer

Frame interval

Exposure time

Wikipedia CC license
TFN x Shots = Total Shots

/Interval
Finding the interval

- **Real World Time (RWTS)** in seconds
  1 hour = 3600 sec (60 min x 60 sec)

- **Playback Frames Per Second (FPS)**
  24 FPS for film, 25 FPS PAL, 30 FPS NTSC

- **Final Video Length in Seconds (FVLS)**
  1 minute = 60 seconds

- **Total Frames Needed (TFN)** = FPS x FVLS

- **Interval (I)** = RWTS/TFN

*Always convert to largest time:

$I = 80$ would be $0 \text{ hrs} : 1 \text{ min} : 20 \text{ sec}$

$I = 3600$ would be $1 \text{ hr}: 0 \text{ min}: 0 \text{ sec}$*
Earth 1 full rotation in 1 second
Earth 1 rotation in 1 second

- RWTS = 24 hrs (86400 seconds)
- FPS = 24 FPS
- FVL = 1 second
- TFN = FPS (24) x FLV (1) = 24
- RWTS/TFN = Interval (I)

- I = 86400/24 = 3600 seconds
- H:M:S = 1h:0m:0s
1 0 0
Hours: Minutes: Seconds

024 1 0024
TFN x Shots = Total Shots
/Interval
Earth 1 rotation in 10 seconds

- RWTS = 24 hrs = 86400 seconds
- FPS = 24 FPS
- FVL = 24 min = 10 seconds
- TFN = FPS (24) x FLV (10) = 240
- RWTS/TFN = Interval (I)

- I = 86400/240 = 360 seconds
- H:M:S = 0h:6m:0s
0 6 0
Hours: Minutes: Seconds

240 1 0240
TFN x Shots = Total Shots
/Interval
Storage

• MegaPixel x Total # shots = Total Storage

• 24MP x 24 = 576 MB
• 24MP x 9999 = 239,976 MB = 240GB
TimeLapse! Calculator

Google Play store
http://exploredc.blogspot.com
**Find Clip Length I**

- **Frame Rate**: 24 FPS
- **Record Duration**: 30 min
- **Shooting Interval**: 5 Seconds
- **Size Per Shot**: 3 MBytes

**Clip Length**: 15.0 sec  
**Memory**: 1.08 GB

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**Find Frame Rate I**

- **Clip Length**: 20 sec
- **Record Duration**: 40 min
- **Shooting Interval**: 5 Seconds
- **Size Per Shot**: 5 MBytes

**Frame Rate**: 24.0 FPS  
**Memory**: 2.4 GB
TimeLapse! Calculator

Find No. of Shots II

Record Duration: 2 hour
Shooting Interval: 10 seconds
Size Per Shot: 4 MB

No. of Shots: 720
Memory: 2.88 GB

Calculate!

TimeLapse! Reference

Shooting Intervals
- Fast moving clouds: 1 sec
- Slow moving clouds: 5 - 10 sec
- Sun (Wide Angle): 20 - 30 sec
- Star (Wide Angle): 20 - 60 sec
- Sunset (Close up): 1 - 2 sec
- Crowds of People: 1 - 2 sec
- Vehicles on Road: 1 sec
- Plant growing: 2 min
- Shadow moving across the ground: 10 - 20 sec

Frame Rates
- NTSC: 30 FPS
- PAL: 25 FPS
- Film: 24 FPS
- Min. of perceived continuous motion: 15 FPS

Ok Copied to clipboard
Suggestions depending on the scene.

- Clouds moving very slowly, interval of 10 seconds.
- Clouds moving normally: interval of 5 seconds.
- Clouds moving very fast: interval of 3 seconds.
- People walking down the street: interval of 2 seconds.
- Path of the sun on a clear day, interval of 30 seconds.
- Night landscapes, stars, moon, etc.: interval of 20 to 30 seconds.

http://www.enriquepacheco.com/10-tips-for-shooting-time-lapse#sthash.TqaH6BVa.dpuf
Suggestions depending on the scene.

To give you a feel on where to start here are some common scenes with possible intervals:

<table>
<thead>
<tr>
<th>1 second</th>
<th>1 – 3 seconds</th>
<th>15 – 30 seconds</th>
<th>Longer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moving traffic Fast moving clouds Drivelapses</td>
<td>Sunsets Sunrises Slower moving clouds Crowds Moon and sun near horizon (or telephoto) Things photographed with a telephoto</td>
<td>Moving shadows Sun across sky (no clouds) (wide) Stars (15 – 60 seconds)</td>
<td>Fast growing plants (ex vines) (90 – 120 seconds) Construction projects (5min – 15min)</td>
</tr>
</tbody>
</table>

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