PHOTOGRAPHING FIREWORKS IN SEVERAL DIFFERENT WAYS

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DIFFERENT OPTIONS FOR SHOOTING FIREWORKS

Common wisdom is that you must have a tripod to photograph fireworks.

Truth is, you probably will get better shots that way, but it isn't the only way.

Shooting Methods

1. Textbook method: long exposure, tripod
2. No tripod: long exposure, handheld believe it or not…
3. My favorite: short exposure, handheld, tracking

Creative Enhancements

- Include a landmark
- Shoot the shooters: get pictures including the people setting off the fireworks
- Light painting

COMMON TRAITS OF ALL METHODS

- Camera
  - A DSLR or ILC is going to be the most adaptable, and produce the best results
  - Many compacts have manual settings, to allow more creativity
  - Know your camera – in the dark is not the time to try to figure it out
  - Some DSLRs and ILCs, and most compacts have a fireworks mode
    - Sets up the camera to generic fireworks settings: manual focus, ~f/11, 4 seconds, ISO 100, white balance 5300K, high contrast, etc.
    - Use it if it works for you, or take control if you want to
- Focus
  - Focus on the origin of the fireworks, then switch to manual focus
    - Consider even taping the focus ring, so you don't bump it
  - Narrow aperture (smaller number) gives you more leeway
  - Manual focus may be difficult (occasionally impossible) for compact cameras
    - Practice manually focusing at about 100 feet (or infinity) before it gets dark

COMMON TRAITS continued

- Shoot soon after lulls in the show, when they resume
  - Most shows have bursts of activity, then slow spells
  - Smoke haze builds up during the busy periods, and looks bad in photos
  - A little breeze is your friend, to disperse all that smoke
- Take lots of pictures
  - Your keep-rate may be only about 5-20 percent at best, just based on timing
  - The more you have to pick from, the better your chances of having that perfect shot
  - Check your display frequently, and adjust your tripod, exposure, focus, etc.
- Manual exposure mode works best for repeatability
  - Take a couple test shots to tune the exposure
- Shooting both RAW and JPG files is recommended: sort the JPGs, process the RAWs

THE CLASSIC TECHNIQUE

- Use a tripod
  - Doesn't need to be super-sturdy; just don't bump it
- Use a remote shutter release, if possible
  - Wired switch, remote control, or self-timer
- If your camera has a Fireworks shooting mode, try it, otherwise:
  - No flash
  - Manual exposure mode
  - Aperture: start at f/8 to f/16
  - Shutter Speed: 4 seconds is a good starting point
  - Keep ISO low to reduce noise – start at 100 or 200
  - Check your display, and adjust the aperture to produce a good exposure
  - Adjust those settings as necessary: shorten the shutter time + open the aperture, etc.
  - When using a tripod, you can hold the shutter open and use a black card as a shutter
  - Resist the urge to raise the ISO; noise can be a real problem with these shots

CLASSIC METHOD EXAMPLES

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http://www.wikihow.com/Photograph-Fireworks

The rest are proof that I have shot 4 sec exposures.

NO TRIPOD? NO PROBLEM

- Brace against a wall or railing, handheld
  - Or set the camera on a beanbag or car roof, and remotely trigger
- 4 seconds shutter speed, or less
  - Captures full traces from ground to burst to spread
  - Nearly impossible to stay steady longer by hand (breathing, etc.)
- Small aperture – f/8 to f/16
  - Too much light will turn colors white, and ambient light sources will be overwhelming
- ISO 100 for low noise
- Wide angle lens to reduce effects of camera shake
- Practice makes perfect – keep checking your display for exposure and results

- Taken handheld
- Canon Rebel XT – ISO 100 – f/16 – 4 seconds
- http://www.photographybay.com/2010/06/27/how-to-photograph-fireworks-even-if-you-dont-have-a-tripod/

NO TRIPOD? NO PROBLEM - more

- This is commonly done at Disney, where tripods are a pain to carry all day
  - Some locations in DC don't allow tripods, so you may need this at landmarks
- Another web page suggests ISO 1600 (Canon 5D - $$$ camera), f/4 to f/8
  - Aperture priority, matrix metering gave 1/25 to 1/50 sec shutter speeds
  - As you can see, there is latitude to adjust, to accommodate your camera and situation
  - http://www.richarddavisphotography.com/photo-tips/photographing-fireworks-without-the-tripod/
- Judge the situation
  - How long are these fireworks taking to rise and spread open?
  - Do you have good stabilization?
  - Will your camera support high ISO (1600) without producing a noisy background?
  - Do you have bright ambient surroundings, that demand shorter exposures?
    - Ambient lights are constant vs. fireworks which are short and bright

- More examples, all handheld
- Good advice: keep your elbows tucked in for more rigidity (and stop breathing…)
- http://wise25158.c4.cmdwebsites.com/blog/?p=55

NOW THE FUN STUFF…

- My favorite method is to actively track the fireworks by hand, then capture just the moment of explosion
- Take a bunch the old reliable way, then give your tripod a break, and give it a try
- The best exposure time seems to be about 1/4 second, f/5.6, ISO 200
  - Any longer, and you can get 'saggy' behavior as the glowing embers succumb to gravity
  - Much shorter, and the explosions are still too small, and are tough to catch
- Manually focus on the place where the fireworks are being launched
- About 85-100 mm (equivalent) lens
- I think these are a lot more challenging and fun
- Give it a try – it'll only cost a few electrons

FUN STUFF continued

- Wait for the 'boom' as the firework takes off, and follow it up until it suddenly slows down and goes dark
  - That's the moment to take the shot.
  - It takes practice and a bit of luck, but after about ten minutes it's as easy as shooting fish in a barrel.
- Some shots will catch the moment of explosion so well that you can almost hear them when you view the pictures (but maybe you need to be deaf to hear that…)
- Very little post-processing is needed
- Note that my shots have all been relatively small fireworks at close range, so adjust as necessary
  - Try to stick close to 1/4 second
  - You may want to go to a longer lens if you are photographing from a distance, but beware of camera shake
  - Play around, have fun, and share your results.

¼ sec
f/5.6
ISO 400
84 mm

¼ sec
f/1.8
ISO 100
100 mm

¼ sec
f/3.5
ISO 160
108 mm

INCLUDE LANDMARKS OR PEOPLE

http://www.wikihow.com/Photograph-Fireworks

http://voices.washingtonpost.com/capitalweathergang/2008/07/photography_fireworks_from_iwo_1.html

http://www.kenrockwell.com/tech/fireworks.htm

http://digital-photography-school.com/how-to-photograph-fireworks

SHOOT THE SHOOTERS

http://www.nyip.com/ezine/holidays/firewks.html

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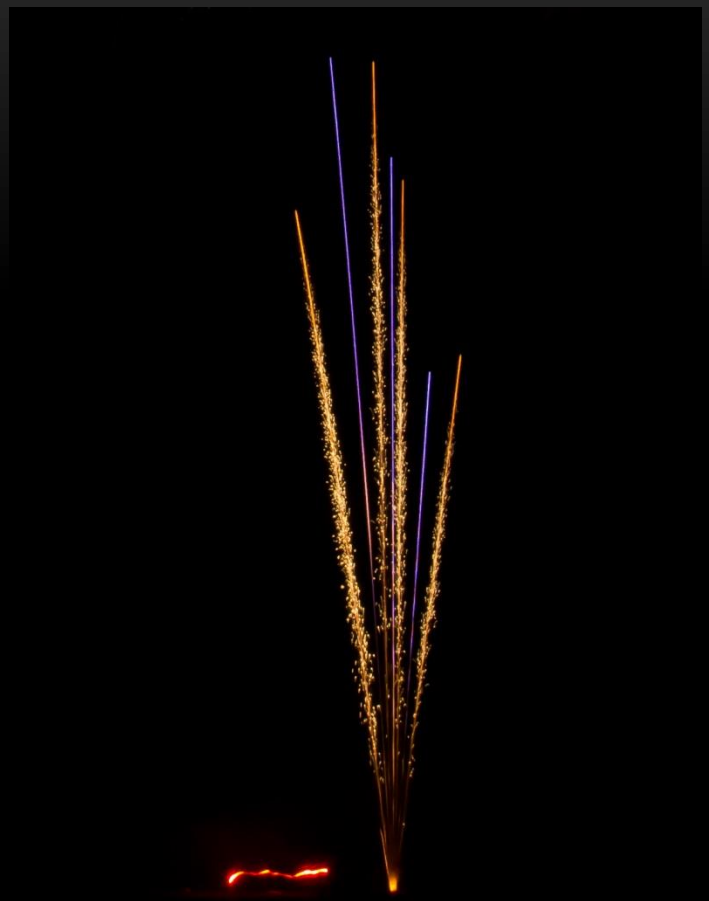
Tyler Evans ↓



AFTER THE FOURTH…

- Light painting is just controlled fireworks photography
- Use the same techniques, and let the kids go nuts with glow sticks, flashlights, sparklers…
- You can use very long exposures in a dark location for extended trails or outlines, words…

http://www.scrappersworkshop.com/foto-friday-photos-a-la-mode-part-3 (both images)

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