

# Capturing the Celebration

A Guide to Shooting Fireworks with Tamron Pro Photographer Jillian Bell



PRESENTED BY

**TAMRON** | *macphun*



**Jillian Bell** is a member of Tamron's Technical Team. Tastefully merging form and artistic flare, her emphasis always lies in the subtle details. Through product training and consumer workshops her role with Tamron is to travel the country educating consumers and sales associates on choosing the right equipment for varying needs. Photography is a useful tool, and her goal is to inspire others and build on photographic skills creating better, more consistent results.

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## Jillian Bell celebrates summer with a tutorial on capturing fireworks and processing them with Macphun's Digital Filters.

I haven't met anyone who hasn't seen a firework display in one form or another. From small backyard gatherings, to large scale pyrotechnics and everything in between, there is something about colorful explosions that bring us together. Family, friends, communities and cultures from all over the world use these displays to celebrate, to honor, to remember achievements and events throughout the year.

Personally, fireworks have always been a fascination. I remember one Independence Day, laying in a grassy field photographing an enormous display. It was a hot July evening. I was covered from head to toe, trying not to be eaten alive by mosquitoes. Trying also to take in the magnitude of it all. The explosions seemed to be right above me. At one point the bursts were so loud, a nearby rabbit was startled enough to run right into me! Almost knocked over my tripod! After a moment, I caught my breath; the rabbit ran away and I was left to admire the wonder of the show.

Although magical, fireworks require respect and a safe distance. Different elements from the periodic table, when burned, create different colors. Pyro-technicians are highly trained in elemental properties and low level, controlled explosions. They precisely measure and arrange varying amounts of explosives and elements to create radiating displays of color, shape and size. The result of their expertise looks effortless.

Good firework photography also looks effortless but it is indeed a difficult genre to capture. Although it can be overwhelming, being prepared, knowing what equipment to bring, and understanding how to expose the image will allow you to properly photograph fireworks.

Let's break it down....



Lens Used: Tamron SP 15-30mm F/2.8 Di VC USD  
Exposure: F/11, 4 sec., ISO 200  
Macphun Filter: Luminar/Neptune Dramatic Filter



**LENS USED:**

*Tamron SP 70-200mm F/2.8 Di VC USD*

**SETTINGS:**

*Exposure: F/9, 5 sec., ISO 200*

**MACPHUN FILTER EFFECT:**

*Luminar/Neptune Soft Focus Filter*

**BEING PREPARED:** First and foremost, doing research is the most important tool I use to photograph. I like to know where local firework displays will be, there are always several to choose from. Check community forums and city websites for times and location details. Then weigh the possible size and scale of each to determine where to capture the best photographs. Use 3D online maps and photos of previous years to help figure out a proper vantage point. Once decided, show up early, even scout out the location a day before if possible. It will be harder to navigate once a crowd of people settle in.

**TIP:** Check the weather and wind direction. Choosing a vantage point with the wind to your back is best to avoid contamination from smoke.



**LENS USED:**

*Tamron SP 10-24mm Di II*

**SETTINGS:**

*Exposure: F/16, 8 sec., ISO 100*

**MACPHUN FILTER EFFECT:**

*Aurora HDR 2017 Filter*

**EQUIPMENT NEEDS:** Secondly, the vantage point will determine which focal length will work best. Wide angle lenses create displays with grandeur. Up-close, I let fireworks fill the sky, sometimes including multiple burst. The Tamron 10-24mm Di II VC HLD or Tamron's SP 15-30mm F/2.8 Di VC USD lenses offer good ranges for these photographs. From afar, wide angles provide needed environmental details to fill in where the image was taken. Look for nightscapes with fireworks exploding over city lights, or reflecting lights over bodies of water with boats and bridges silhouetted in the foreground. This photo was taken at the nightly display during the Minnesota State Fair. Vendor booths light up the foreground and shuttle bus lights seen streaking across add visual interest.



## LENS SELECTION:

Telephoto lenses isolate bursts into colorful expressions of shape and line. The Tamron 70-200mm G2 is my most used lens in this situation. A 70-300mm is a good second option. Up close, telephoto lenses are harder to compose, but allow pieces of each burst to completely fill the frame. From afar, telephoto lenses are used to cut out distractions from crowds and other surroundings.

TIP: If crowds are not appealing, or getting close to the firework display is not an option, bring the Tamron SP 150-600mm Di VC USD G2 and find a high vantage point a few miles away for a clear view.

## LENS USED:

*Tamron SP 70-200mm F/2.8 Di VC USD G2*

## SETTINGS:

*Exposure: F/8, 3 sec., ISO 200*

## MACPHUN FILTER:

*Luminar/Neptune HSL Filter (Red only 100%)*

## HERE'S A LIST OF SUPPLIES & EQUIPMENT TO CONSIDER:

- Camera Gear
- Tripod
- Shutter Release (wired preferred)
- Extra batteries
- Extra memory cards
- Lens cap (for bulb mode exposure discussed later)
- A blanket
- A portable chair
- Insect repellent
- Earplugs

Out of everything, a sturdy tripod and shutter release are essential. To photograph fireworks, shutter speeds will be too slow for hand holding. Although stabilization can help with slower shutter speeds, experiment first so you know your limits of hand holding. All lenses with stabilization need to be shut off anytime it is on a tripod. If a lens is perfectly still, the lens tries to stabilize itself which will in turn create unsharp images. In crowded spaces, tripods need extra working room. Be respectful, but confident, and set up for the best composition. Another advantage to using a tripod and shutter release—it pulls me away from the viewfinder to enjoy the show and photograph it at the same time. Fire just before each burst to get a full explosion and the most dramatic effect. To do so, listen for a low thud signaling the launch explosion, count to 2 or 3 then release the shutter. Timing may be different in your situation, so be flexible and adjust accordingly.



### LENS USED:

*Tamron SP 70-200mm F/2.8 Di VC USD*

### SETTINGS:

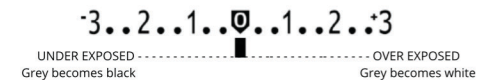
*Exposure: F/11, 6 sec., ISO 400,*

### MACPHUN FILTER:

*Luminar/Neptune Bi-Color Toning  
(Red/Blue) Filter*

## BASIC EXPOSURE:

To understand exposure, we need to understand how cameras see and meter available light. All cameras capture light to determine a meter reading. By default, the available light captured is averaged out to a median value of 12-18%. This standard grey tone, cameras calibrate to for a correct exposure = 0. As we purposefully under or over expose the image, we are telling the camera to shift this grey tone darker (under) or brighter (over).



**Consider the following:** In a well-lit, mid-day scene, cameras have no problem reading the light. Fireworks happen at night with mostly dark tones. When metering to 18% grey, black/shadowed areas look washed out and bland, almost as if it were the middle of the day. To achieve rich blacks and vibrant color, my meter always reads -1 stop underexposed. Grey values turn back to black where they are supposed to be. NOISE is another problem commonly seen in night photography. To ensure the least amount of noise, keep an ISO between 100-400 for best clarity.

**In a basic setup:** Start with your camera on a tripod in Shutter Speed Priority Mode. Set the following: ISO=200; Exposure Compensation = -1stop; Manual Focus = infinity; Stabilization = Off; Shutter Speed = 6 seconds.

**In an advanced setup:** Start with your camera on a tripod in Manual Mode. Set the following: ISO100, F11 @ 6 seconds; Manual Focus = infinity; Stabilization = Off.

Take a few photos and make minor adjustments if needed. For the basic setup, only adjust the exposure compensation to brighten or darken the exposure. In the advanced setup, keep a shutter speed of 6 seconds but change the aperture to darken or brighten the exposure. Lower the F-stop (F/8, F/5.6, F/4, etc.) to brighten. Raise the F-stop (F/16, F/22, etc.) to darken.



### LENS USED:

*Tamron SP 15-30mm F/2.8 Di VC USD*

### SETTINGS:

*Exposure: F/2.8, 1/250 sec., ISO 200,*

### MACPHUN FILTER:

*Luminar/Neptune Ai Accent Filter AND  
Tone Filter*

TIP: Use a street light to double check your exposure prior to the fireworks display. This bright light against the dark sky is similar to bright burst in the dark sky.



**TIP:** The important thing here is to again be flexible. Even the shortest pyrotechnic shows are 10-15min long. There is plenty of time to experiment with exposure, composition and timing. From experience, 6 seconds is my sweet spot. Getting just enough burst to create a form without feathering the firework too much. 1/2 - 2 second shutter speeds shorten a firework's illuminating lines and to me, doesn't look full enough. 10-30 second shutter speeds leave the shutter open longer, giving multiple bursts time to fire. Too many overlapping lines creates chaos within an image. Unless creating a texture, I like to keep my scenes simplified if possible.

#### **LENS USED:**

*Tamron SP 15-30mm F/2.8 Di VC USD*

#### **SETTINGS:**

*Exposure: F/8, 4 sec., ISO 200*

#### **MACPHUN FILTER:**

*Luminar/Neptune B&W Conversion Filter*



## EXPERIMENTATION:

When you feel comfortable, start playing around with different shutter speeds and techniques. One commonly used technique involves setting your camera in Bulb Mode. While in Shutter Speed Priority Mode, turn the dial past 30 seconds until “B” or “Bulb” comes up on the display screen. The shutter will now keep taking the photo as long as the shutter button is depressed. Pair Bulb Mode with a lockable cable release and use a lens cap to only expose the photo when a burst of fireworks goes off. You can leave the shutter open indefinitely overlapping multiple sections of the show.

### LENS USED:

*Tamron SP 24-70mm F/2.8 Di VC USD*

### SETTINGS:

*Exposure: F/8, 2 sec., ISO 200*

### MACPHUN FILTER:

*Luminar/Neptune Image Radiance Filter*





### LENS USED:

*Tamron 16-30mm Di II VC PZD Macro*

### SETTINGS:

*Exposure: F/8, 2 sec., ISO 100*

### MACPHUN FILTER:

*Luminar/Neptune Microstructure Filter*

Sparklers are another fun photographic opportunity. Add in a few friends and you can create shapes, designs, or words. Timing here is set to 2 seconds in Shutter Speed priority; ISO 400; Exposure compensation = -1. Make sure each person writes their letter backwards so it appears correct in the image. Prefocus using a flashlight, illuminated on a chosen friend, then switch to manual focus.

Adding Flash is another optional tool with which to experiment. Do not worry about TTL metering, or flash settings. During a long (2-10 second) exposure, fire the off-camera flash a few times to illuminate the foreground. Even the most powerful flashes only expose 15-50ft. Anything you want to light, make sure it is near enough for the light to reach.



**THE GRAND FINALE:** The pinnacle of every firework display is the grand finale. After a longer pause, the final display starts. There are more bursts per second happening all at once. “More bang for your frame.” Let’s take advantage of it. Feel free to loosen up a bit in shutter speed priority mode, set 1/10th of a second. If your lens is stabilized, turn it on and take the camera off your tripod if you wish.

All in all, when it’s over, you’ll have many photographs that look the same, many photographs you’ll throw away, and a few that are just amazing.

And these you’ll cherish.

#### **LENS USED:**

*Tamron SP 15-30mm F/2.8 Di VC USD*

#### **SETTINGS:**

*Exposure: F/11, 30 sec., ISO 100 (bridge foreground photo)*

*F/9, 1/8 sec., ISO 200 (fireworks overlay)*

#### **MACPHUN FILTER:**

*Luminar/Neptune Ai Accent Filter AND Texture Overlay*

## PARTING SHOT

### LENS USED:

*Tamron SP 15-30mm F/2.8 Di VC USD*

### SETTINGS:

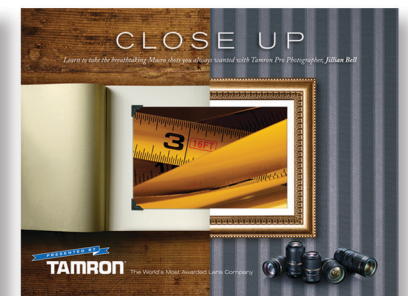
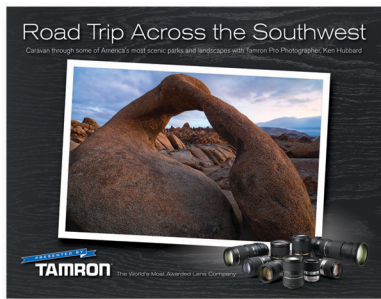
*Exposure: F/11 10 sec., ISO 200*

### MACPHUN FILTER:

*Luminar/Neptune Quick and Awesome  
Workspace*



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