Colourful fireworks set against the night sky are a spectacle that many people find magical – so why not capture this sense of wonder in a photograph? Whether you are using a compact camera a mirrorless camera or a DSLR these **10 fireworks photography tips** will help you capture the spectacle this festive season.

1. What is the best camera for fireworks photography?

It doesn't matter what kit you have or how experienced you are – fireworks photography can be both easy and fun. If you're out enjoying a fireworks display, the ideal way to capture the event is a go-anywhere pocket-sized camera with its high-sensitivity sensor, or with a bright (eg f/1.8) maximum aperture, which is great for night and low-light photography.

Mirrorless and DSLR's are perfect for photographers wanting more creative freedom. A full-frame sensor provides heightened control over depth of field and greater performance in low light. A cropped sensor camera equally impressive when lighting is poor, especially if it has a dedicated Handheld Night Scene mode for sharp low-light scenes without a tripod.

Professional-level mirrorless cameras are designed with low-light photography in mind. With 20 to 50 megapixels spread across a full-frame sensor, each pixel is larger and more light-sensitive, resulting in superb quality low-light shots and outstanding dynamic range. Some also feature image stabilisation, which means you can get blur-free night shots even when shooting handheld at relatively slow shutter speeds, to capture as much light as possible.

2. What are the best lenses for fireworks photography?

You can get great shots simply by using the built-in lens on a compact superzoom camera, or the kit lens that came with your camera. If you can change to other lenses, you can create more varied and creative compositions.

Shorter focal lengths enable you to include buildings and structures in your shots for added context and visual interest. A wide-angle prime lens is great as with a smaller body mirrorless or DSLR camera its compact profile makes it a versatile companion for all sorts of photography. Pairing a camera with a wide-angle zoom however will allow you to change the focal length to vary your compositions – something which is especially useful at busy displays where standing space is limited.

Conversely, telephoto lenses isolate and highlight details, resulting in impressive frames filled entirely with fireworks.

For the best of both worlds, try a zoom lens with the widest possible focal range.

3. What's the best location for fireworks photography?

It's worth planning ahead to find a spot that will be free of obstructions. Check the location in daylight and find out which way the wind will be blowing. This is particularly important if there will be a bonfire, as it will help you to avoid smoke or embers creeping into the frame. If you're planning to use a tripod, set it up in a spot where other people are unlikely to get in the way as you shoot.
A location with an interesting object in the foreground, such as a bridge, can also add another dimension to your photographs.

4. How do I photograph the atmosphere of fireworks at a party?

A good way to capture the atmosphere of a party is to photograph family members playing with sparklers, using their imagination to create fun and artistic patterns with light. Look on Youtube for tutorials explaining the best techniques and settings for light painting, as well as plenty of other ideas for amazing pictures.

Another way to create an interesting shot is to capture the reflection of fireworks in a window, with friends or family members looking out from the inside. Take a couple of test shots to ensure your subjects are well exposed, and keep those settings for when the action unfolds. If your camera offers this option, make sure to capture your images in RAW format. This will give you maximum flexibility when it comes to adjusting how different parts of the image are exposed. Post-processing can be done in RAW processing and editing software.

5. How can I get sharp fireworks photos?

The first key thing to do, whichever device you're using, is to turn off your flash – you want the light of the fireworks, not nearby objects lit up with flash. Then, if possible, switch your camera to a mode that allows you some control over settings, such as Shutter Priority or Manual mode.

It's difficult to know when the biggest and most colourful fireworks will explode, so it's also a good idea to set your camera to continuous shooting, also known as Burst mode, and take several images in quick succession each time you press the shutter button. This will increase your chances of capturing one or two images with particularly dramatic explosions.

If your camera is on a tripod, you may be able to use a smart phone app to wirelessly control the camera shutter with your phone or tablet. Alternatively, you could use a wired or wireless remote, or even your camera's self-timer feature. All of these will enable you to trigger the exposure without touching the camera, which will help to avoid camera shake and keep your images sharp.

6. How do I take fireworks pictures without a tripod?

If your lens features image stabilisation, or you have a camera with in-body stabilisation (IBIS), this will help to banish any minor shake that comes from shooting handheld, but be aware that it may reduce your shutter speed if you shoot in Aperture Priority mode. If you are using a tripod, switch your lens's IS off. Otherwise, for extra stability, try placing your camera on a stable surface such as a ledge or wall. If you have a screen on the back or an electronic view finder use these to take test shots to check your composition.

7. How do I focus when photographing fireworks?

Set your camera to Manual focus, or move the focusing switch on your lens to the MF position, and adjust your focus to Infinity. On your lens body or camera screen, this is denoted by the ∞ symbol. This is probably where you'll want your focus if you're concentrating on capturing the fireworks in the sky.

If you want to include foreground elements in the photo and want these to appear sharp as well, a good tip is to focus on a point about a third of the way into the scene, which will produce maximum depth of field and make most of the shot sharp between the foreground and background. This is a quick way to emulate a professional technique called hyperfocal focusing.

8. What settings should I use to photograph fireworks?

Whichever camera you use, a lower ISO (light sensitivity) setting will give sharper images with better colour and less noise. So start with a setting such as ISO100 or ISO125 and then adjust your aperture and shutter speed to get a good exposure.

If you're shooting handheld, start with the slowest shutter speed you can use without introducing unacceptable blurring caused by camera shake or the motion of the fireworks. A shutter speed of around 1/10 sec often works well – fast enough to freeze the motion of the fireworks, but long enough to capture their light. When using a camera on a tripod, you can use a much slower speed, such as one or two seconds, as your starting point.

When you want to retain some sharpness throughout the scene, start with an aperture setting around f/8. If you need to let more light in but can't use a slower shutter speed without blurring, then you can try widening the aperture to f/5.6 or f/4 – but the wider you make the aperture (that is, the smaller the f-number), the narrower the depth of field also becomes, meaning that less of the scene is in sharp focus.

It may take some trial and error to find the right balance of shutter speed to capture the detail you want as sharply as you want, combined with an aperture that gives a good exposure and the depth of field you want. If you can't get well-exposed, blur-free results using aperture and shutter speed, then try adjusting the ISO. Cameras with larger sensors offer better high-ISO performance and will give the best results, but it's still a good rule of thumb to keep ISO low and increase it only if you need to.

9. How do I capture firework shapes?

Your camera's Bulb mode enables you to keep the shutter open for as long as you need, which means that you can capture the fireworks as they move across the sky and explode, leaving light trails that show impressive shapes. To use Bulb mode, select Manual or Shutter Priority mode, and dial all the way to the end of the options, past 30 sec. Press the shutter button once to open the shutter, and again when you want to close it.

For long exposures you will need to keep the camera very still, so a tripod is required. Using a cable release or a remote control is very helpful too, as it enables you to shoot hands-free and keep your images pin sharp. If you have a Wi-Fi enabled camera you can also try the smartphone app, which enables you to trigger the shutter remotely from your smartphone or tablet.

10. How do I get the correct exposure for fireworks?

A dark sky with bright fireworks exploding against it is a fairly unusual scenario in terms of photographic subjects, and in automatic modes your camera might set an exposure that is too bright for a night-time fireworks image. If you shoot in Manual mode, or a semi-automatic mode such as Aperture Priority or Shutter Priority, you can use exposure compensation to avoid this. Look for the -/+ button or icon on the screen and set it to about -1 or -2.

If you use Manual mode, you can also keep an eye on the exposure indicator scale on the LCD screen or at the bottom of your camera's viewfinder while choosing a combination of settings that push the indicator to the left of the scale.

It's possible to capture spectacular photographs of fireworks no matter which camera you're using. What's most important, though, is to get out there, give it a try and have some fun!