

WIRELESS ASTROPHOTOGRAPHY

Cut the cord(s) with a WiFi imaging setup

WiFi CAPABILITY seems to be everywhere these days—from mobile phones to household appliances to automobiles. So it's no surprise that many manufacturers have started to include this technology in their latest cameras. But this is a good thing. It opens up the exciting world of wireless astrophotography.

For years, you've been able to purchase a simple infrared remote to trip your camera's shutter. This device is very useful, but with WiFi, you can control most photographic settings remotely.

MAKING THE CONNECTION

If you've purchased a new DSLR recently, chances are that it is already WiFi-enabled. (Check the instruction manual for your particular model if you're not sure.) If it is, you may already have everything you need to get started with remote imaging. But if you have an older camera that lacks WiFi capability, don't despair. Thankfully, there are a number of third-party solutions (such as the CamRanger or CamFi) that allow you to add wireless image capture to existing gear.

Several manufacturers offer apps that allow you to control your camera wirelessly with your personal computer. Canon, for example, includes its EOS Utility software with all its DSLRs. Nikon offers the equivalent Camera Control Pro 2, although at US\$180 for the full version, it's somewhat expensive.

More exciting is the growing number of free apps that allow you to control your camera with a mobile phone or a tablet. Canon offers Camera Connect, Sony provides the Smart Remote Control, and Nikon has the Wireless Mobile Utility—all free. Two of my favourite third-party apps are Cascable and qDslrDashboard, each of which supports a variety of camera models.

Once the app is set up, you can control your camera wirelessly from up to 10



REMOTE CONTROL The author pauses while setting up his telescope to show the photo he took of the Moon. Using a wireless-enabled camera to share Live View images of the Sun, Moon and planets on a handheld device is a real crowd-pleaser, especially for those, like this budding astronomer, who have trouble reaching the eyepiece. Facing page: Taking advantage of the built-in WiFi capabilities of his Canon EOS 6D, the author created this cosmic self-portrait. The 90-second exposure was triggered remotely from his iPhone using the Canon Camera Connect application.

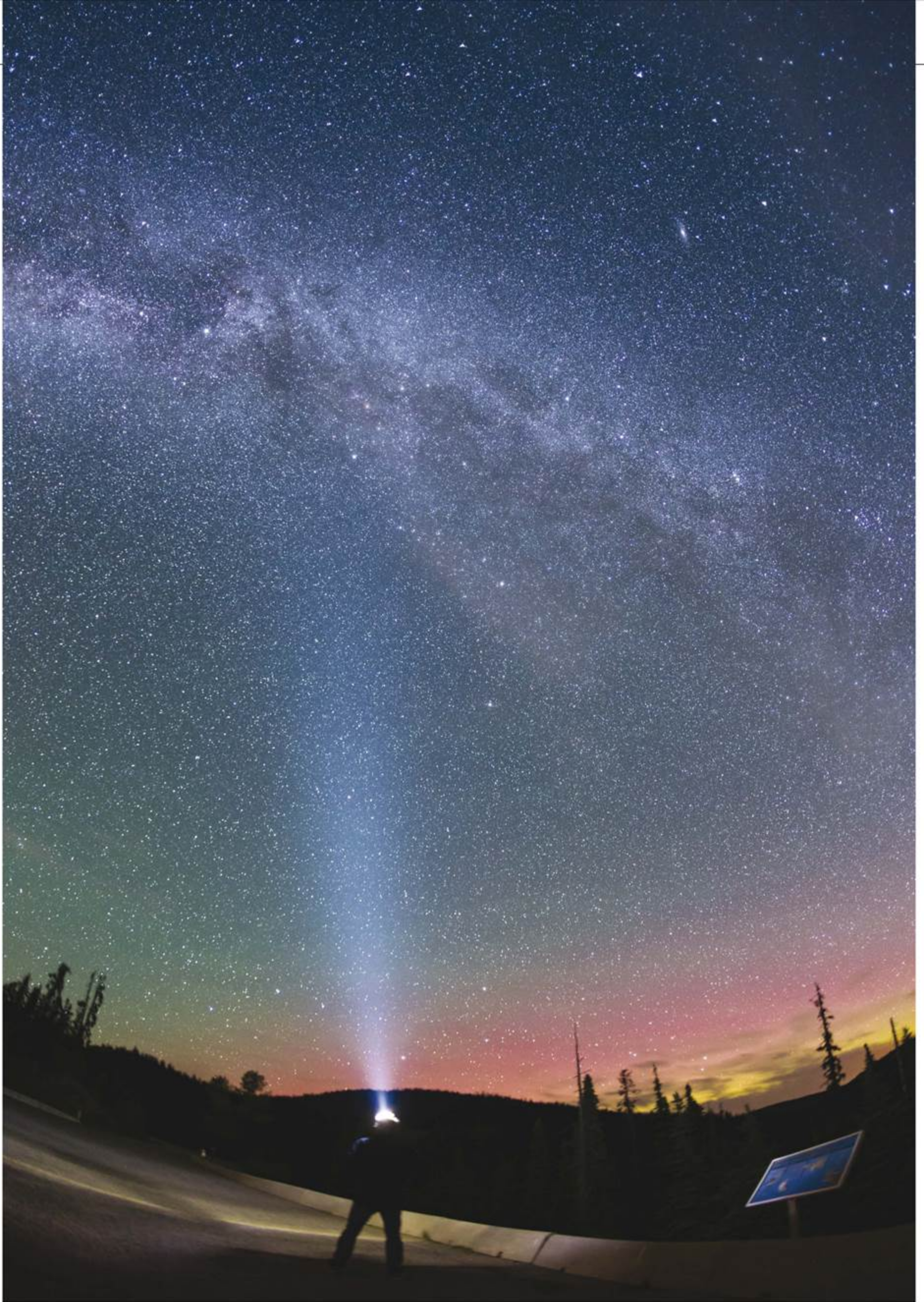
metres away, allowing you to spend chilly winter nights (or mosquito-infested summer evenings) indoors in total comfort while your camera clicks away outside. As an added bonus, not having to touch the equipment at all means that there's no risk of introducing image-blurring vibrations while adjusting settings or firing the shutter. And there's one less wire to trip over in the dark.

GOING LIVE

In my opinion, the single biggest benefit of WiFi astrophotography is the ability to use remote Live View. Regular Live View, utilizing your camera's display, is tremendously helpful, but being able to see the same real-time image on the much larger screen of your mobile phone, tablet or computer is simply jaw-dropping! Because you

can magnify the image—by as much as 10×—this is a game changer when it comes to achieving precise focus. In addition, if you're shooting with an auto-focus lens, many apps allow you to tweak the focus with your wireless device.

If you attach your camera directly to your telescope for high-magnification imaging, remote Live View can make a world of difference when it comes to getting tack-sharp lunar, planetary and solar portraits. Most wireless software allows you to capture a sequence of shots in burst mode, which increases your chances of catching a fleeting instant of perfect seeing for detail-rich photos. Solar imagers will also appreciate being able to control their equipment from a shady spot, shielded from the Sun's heat and brilliant light, which can overpower even the brightest tablet screen.





SIZE MATTERS The rear display of this Canon 80D is dwarfed by the iPad's 9.7-inch screen. Utilizing Live View on a large display makes obtaining perfect focus much easier, and because the connection is wireless, the display can be positioned at a convenient angle and far from the camera.

OPTIONS AND CAVEATS

But why stop with your camera? Some new telescopes, such as the Celestron NexStar

Evolution (reviewed by Alan Dyer in the May/June 2015 *SkyNews*, page 50), ship with WiFi capability built in. If your tele-

scope has a GoTo mount, it's probably compatible with one of the many add-on WiFi units, such as Simulation Curriculum's SkyFi, iOptron's StarFi or Orion's StarSeek. Thanks to this technology, it's now possible to have a completely untethered astrophotography system.

As with any new technology, wireless astrophotography introduces its own challenges. Configuring the WiFi can sometimes feel like attempting *The New York Times* crossword puzzle while blindfolded. Running a wireless connection will also shorten your camera's battery life, and the small dose of extra thermal noise created by the additional electronics isn't a good thing for long-exposure photos. Still, I feel that the benefits far outweigh the technical issues, and the technology will only improve as manufacturers refine their offerings. ♦

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