

hub and a total of about 30 feet of cable, which worked flawlessly. The filter wheel's electrical connects are to the camera body, thus eliminating the need for additional power and communication cables dangling from the camera. To use the ST-8300M as an autoguider, there's an ST-4 compatible port on the body.

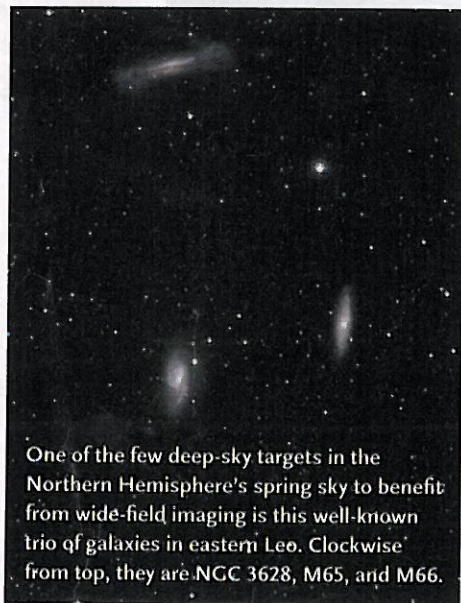
For image acquisition and processing, the ST-8300 ships with SBIG's *CCDOPS* version 5 as well as Software Bisque's *CCDSOFT* version 5, both of which I've used in the past. My testing also included *MaxIm D/L 5.0*, since the program was already loaded on the 8-year-old Windows XP laptop used exclusively for image acquisition in my backyard observatory. My colleague Sean Walker and I calibrated and processed the images using a variety of computers and programs. The only downside to running the camera with a laptop bordering on dinosaur status was that my image downloads were about 33% slower than specified by SBIG, with full-resolution frames requiring about 12 seconds to transfer from the camera to the computer instead of the 8 seconds claimed by the company.

I used the camera last April, May, and June, at a time when the evening sky is dominated by relatively small galaxies. It wasn't until the end that I could image targets showcasing the camera's wide-field potential with the William Optics FLT-98 apo refractor I was using (see the Quick



**Above:** Using the same setup as for the North America Nebula, the author captured this view of the western half of the Veil Nebula. It was made from 30-minute exposures through red, green, and blue filters. North is at left.

**Below:** This author's setup for all the astronomical images in this review included an Astro-Physics Mach1 mount and home-made guidescope.



One of the few deep-sky targets in the Northern Hemisphere's spring sky to benefit from wide-field imaging is this well-known trio of galaxies in eastern Leo. Clockwise from top, they are NGC 3628, M65, and M66.

Look review on the facing page).

The ST-8300M's regulated, single-stage thermoelectric cooler never failed to hold the CCD's temperature at least 38°C below ambient air temperature. On nights when a slight breeze kept the air stirred up in my roll-off roof observatory, I could achieve a temperature drop of 40°C. Regardless, like many modern CCD chips, the KAF-8300M has particularly good thermal characteristics, typically generating a dark current of only 0.2 electron per pixel per second when cooled to just 0°C. This low thermal signal is very desirable for a deep-sky camera, especially one used with narrowband filters that allow only a small amount of light to reach the chip.

Despite its low price, the ST-8300M is a no-compromise CCD camera that delivers image quality consistent with SBIG's line of high-end cameras. And like so many other products in today's digital world (think computers and smartphones), the ST-8300M is proof that decreasing prices do not mean less performance.

Senior editor *Dennis di Cicco* is amazed that it's been 20 years since he reviewed SBIG's ST-4 in the September 1990 issue.

