



## Preface

It is very likely that every amateur astronomer has owned a Celestron telescope at one time or another. And I am no exception. My experiences with Celestron telescopes began at the same time as my passion for backyard astronomy was reborn.

The Washington, D.C., area in the early 1980s was well known for George Washington Birthday sales. Every year, bargain hunters were treated to exceptional deals on all forms of consumer products, such as clothing, furniture, televisions, stereo electronics, and cameras. In 1987, a local Washington, D.C., camera store consolidated all its surplus camera and telescope items into its main warehouse for a true blowout George Washington's birthday sale. This particular sale included several Celestron telescopes that were unsold from the previous year's Halley's Comet sales push. My best friend and I entered the warehouse store and went crazy, with me leaving with two Celestron telescopes and an armful of eyepieces. My prized acquisitions were an orange tube Celestron C-5 with equatorial wedge and an orange tube C-90 Astro with fork mount and clock drive. The Celestron C-5 completely renewed my interest in astronomy. It also sparked a bad case of Gear Acquisition Syndrome, or sometimes known as GAS. In the next decade, I found myself building, buying, and selling many telescopes (including a self-built 10-in. Dobsonian telescope that resulted in my first published article in the November 1989 of *Astronomy* magazine). Along the way, both orange tube Celestron telescopes were sold. To this day, I wish I had kept that orange C-5.

By the early 1990s, I found myself owning a Celestron Ultima 8. The Ultima 8 was the ultimate expression of a pre-computerized 8-in. Schmidt-Cassegrain telescope, with heavy fork tines and an accurate clock drive system with hand controller. It was heavy, and boy was it stable. It had wonderful optics and was a joy to use, with the exception of having to move it in and out of the house. Alas, apochromatic

refractor fever got a hold of me, and the Ultima 8 was sold to finance a Brandon 130-mm apochromat refractor (which I still own). Another Celestron that I wish I had kept.

By the early 2000s, I had bought, traded, and bargained my way through several telescopes, culminating in the ownership of a classic Questar 3-1/2 in. Maksutov-Cassegrain, with a 1/10th wave quartz mirror. It was a wonderfully portable telescope system that accompanied me on a trip to Hawaii, the shores of the Chesapeake Bay to view and photograph the Venus transit of 2004, and several star parties. All was good with the Questar, except for the limitations of such a small aperture. In a clear case of aperture fever, the Questar was traded in for my current big eye telescope, a Celestron 11" GPS. Eleven inches of aperture, GoTo and GPS drive system, and a versatile 2-in. diagonal, this Celestron has kept me happy for a decade. I don't miss the Questar!

I was working at a vendor booth at the 2014 NorthEast Astronomy Forum, conveniently known as NEAF, and was present at Celestron's product announcement of the Celestron Evolution series of telescopes. At an exclusive Celestron reception, Celestron introduced their new telescope line called the Celestron NexStar Evolution and a new 11-in. Rowe-Ackermann Astrograph.

The Celestron NexStar Evolution represents the latest developments in the long line of Schmidt-Cassegrain designs. The new Celestron Evolution line includes 6-in., 8-in., and 9.25-in. telescopes mounted on newly designed heavy duty single-arm fork mount with WiFi-based computer GOTO drive systems. Mechanically, the Celestron NexStar Evolution newly designed single-arm design is far sturdier than the older SE single-arm design and is steady enough for use in astrophotography.

Most notable is the introduction of a new GOTO computer control system. In the past, all telescope users are familiar with GOTO telescopes, with the hand controller and control cable attached to the base, and the power cables needed to provide power. This rat's nest of cables is eliminated with the new Celestron Evolution telescopes. The telescope base comes equipped with a built-in rechargeable battery. No longer does the user have to lug a separate battery pack to power the telescope or have a power cable cord getting in the way during a observing session.

Additionally, no longer is the telescope user encumbered with an archaic hand controller and the required telephone-like coiled controller cable. The Celestron NexStar Evolution utilizes a revolutionary WiFi interface with the user's tablet or smartphone to control the telescope. The user's iPhone, iPad, or Android tablet or phone is loaded with the SkyPortal application. The SkyPortal application is used to control the Evolution telescope, while providing the useful astronomy information.

The WiFi capability will save you if you have a pet dog like I do. I love my Labrador retriever Kaiser. He's a great dog, but sometimes he gets a little rambunctious and crazy. Not long ago, he got a hold of the Celestron NexStar+ hand control and chewed it up. I found the hand control on the floor, and the connecting cable had been chewed off by Kaiser. What was left of the cable and connectors were found in the corner of the family room, in a pool of yuk. Unfortunately, the hand control bore a slight resemblance to one of his chew toys! He had mistakenly taken

the hand control off my computer desk and proceeded to do his dog thing. Hence, I now place all my new hand controls in a glass cabinet for protection. My iPad, with the SkyPortal app, is safe from Kaiser's attacks.

Further NexStar Evolution refinements include tripods that now have gradations imprinted on the extendable legs to aid in leveling the mount on an uneven surface. Of course, a bubble level is built in on the tripod. There are even eyepiece spaces provided in both the tripod and drive base.

With the introduction of the NexStar Evolution series, I realized that a new era had dawned on amateur astronomy, and plans for this book took form. Within these pages, the description and process of using the novel WiFi-based control system provided by the NexStar Evolution and the SkyPortal applications are detailed. Note all photos of SkyPortal in action are taken from the screens of either an Apple iPad or an Apple iPhone 5C. The screens are identical with Android devices.

Clear Skies and Good Music,  
James L. Chen

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