

# SkyWatcher Esprit 100

by Charlie Warren



**T**he Esprit is Sky Watcher's premier line of ED Triplet Apo refractors. There are four aperture sizes offered; 80mm (f/5), 100mm (f/5.5), 120mm (f/7) & 150mm (f/7). I tested the 100mm f/5.5, which for me is a sweet spot for wide-field observing and imaging. The fast focal ratio of this scope makes it a really nice portable astrograph.

**Packaging:** The Esprit arrived very well packaged with the included aluminum travel case protected by a heavy gage cardboard box. The aluminum case is robust with a carry handle on the front edge and two lifting handles on the sides, which I found to be very handy when lifting out of a trunk. The twist locking latches can be secured with a small lock, and the high density foam that houses the components is air travel capable. The interior is a bit unorthodox in that it includes a number racquet and tennis balls inte-

grated into pockets, but they do provide significant and effective shock absorption. The case is nicely designed to house all the included components and some additional areas for a few accessories as well.

**Package:** One of the really nice features of this scope is that it comes as a complete package, which includes: the refractor, a thread on field flattener designed for the scope, 3" focuser with micro focus, 2" diagonal, 9 x 50 erect image finderscope, tube rings with dovetail bar, the aluminum case and even a Canon camera adaptor. Right out of the box, the new owner is ready to observe or image by just adding eyepieces or camera. I love my Takahashi gear, but my first experiences with them is usually about making a list of the (frequently expensive) accessories and "plumbing parts/adaptors" that I need to purchase to make the scope functional for imaging.

**Fit and Finish:** I love telescopes that are well made, and the Esprit does not disappoint, from the glossy white paint on the OTA to the matte black on the interior dew shield baffle and front of the objective and the glossy black of the nicely anodized focuser. All parts are precision fit and a joy to look at as well as use.

The tube rings are simple to adjust and hold the OTA like it was molded to it when tightened. The tube rings are machined to accommodate a dovetail on top to hold another guide scope or camera. The dew shield extends and retracts smoothly. The focuser is silky smooth, accurate and has a very generous focus adjustment for just about anything that might be thrown in the imaging train. There was no play even with heavy eyepieces, my DSLR or CCD camera/filter wheel combinations in place. The focuser has a rotator that is easy to use by backing off



the locking ring a little bit and rotating to the desired angle, then locking down again. I tried this with all combinations of equipment, and it operated flawlessly with effortless control. I have several telescopes that are really finicky in regards to back focus. This scope allowed easy focus of literally everything I threw at it with plenty of margin for additional focus. Pictured is the

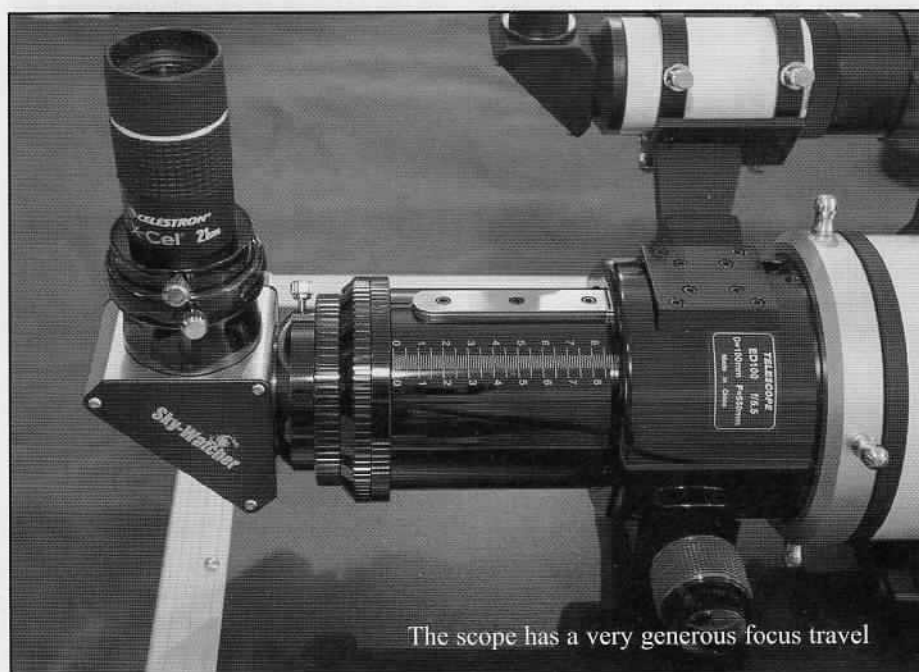
included field flattener, that I feared would not allow me to use my off-axis guider in conjunction with my DSLR. No problem bringing this combo to focus, which is a feat I have not been able to accomplish with several of my other refractors, nor my Mak/Cass astrograph.

The finderscope is adequate and the

erect-image makes it more user friendly, but I prefer a Telrad or even a dot finder. Either to me is easier for initial alignment purposes and the Telrad with its illuminated circles is excellent when you want to go old school and star hop, which I do fairly regularly to keep this skill set alive. I have a good sized box with a healthy assortment of finder scope that have been replaced by Telrads.

The diagonal is solid, and high quality with dielectric coatings. The locking rings worked well. The inclusion of the Canon camera adaptor was a nice surprise and made it a no brainer to start taking some images immediately.

**Visual:** Although this scope is designed with the imager in mind, it is a really sweet visual instrument. Before placing any imaging artillery on the back, I wanted to give it a good run with some premium eyepieces. I love visual astronomy, so this was not exactly a painful task. First light with it was under moderately dark skies at the TN Fall Star Party at Fall Creek Falls. Transparency was not great, but seeing was reasonably steady. I first conducted star tests and queued up a few nice



The scope has a very generous focus travel



doubles. One of my favorites is Albireo, and it was in prime position, well overhead. The stars were crisp and the gold and blue of the two stars were a pleasing color with no noticeable aberration, even when pumped up with a 7mm Nagler and racking the focus in and out. I slewed over to Epsilon Lyra to test it with the "Double Double". It passed with flying colors. Even at lower magnification (21mm eyepiece), I could detect the second set of double stars, and with the 4mm it was very nice and sharp with great separation. Next I slewed to Andromeda, which fit nicely in the 21mm, but I enjoyed the view better with the Nagler 31mm. With the 31, stars were sharp to the edge of the field and the contrast in the dust lanes was very nice for the seeing conditions..

### Imaging

This is a very nice observing telescope, but it is definitely designed to be an imaging machine. The large heavy duty dual speed focuser held steady and performed well during my imaging test with both CCD and DSLR cameras. My gear is not particularly heavy compared to some large CCD cameras with some of the large nine position filter wheels, so I strapped two 1.5 lb ankle weights onto my CCD with 7 position (1.25" filters) filter wheel to simulate a heavier load. It was still very easy to dial in critical focus, but required that I use the

focuser locking mechanism under the focuser to keep it in place when the target was located at higher altitudes..

The stated clear aperture is 40mm, so it was more than ample to cover my



largest chip, which is a Canon 5D with full frame 35mm sensor. There was no vignetting with this size chip. The Canon 60Da has an 18 MP APS-C crop chip, which measures 25.1 x 16.7mm and this scope covers that territory very nicely with extremely sharp stars to the corner and no vignetting. My CCD chips are smaller than these chips, so they only carve out the file and so this scope was more than adequate, some even without the included field flattener.

The field flattener does what it says and delivers. It made a significant difference with my larger chip cameras. As I mentioned previously, the focus travel is very generous, so there was no problem getting any of my configurations to focus.

This scope is priced significantly lower than many telescopes in its class and performs very well from a visual and imaging perspective. Images are crisp, with flat fields and great contrast and excellent color correction. It is well constructed, comes with a very comprehensive package of items that allow the owner to immediately use it to observe or image. Based on some 30 hours under the stars with it so far, I would rate it as an exceptional value for this size and class of telescope.

**The Double Cluster (NGC 884 & 869) in Perseus shot with the Canon 5D full frame 35mm chip and detail of the far corner proving that it handles this size chip very well.**