

Lunt Solar System LS152



Modular Design, Ease of Use and Cutting Edge Technology

By Stephen W. Ramsden and Brian Stephens

The last decade has seen an amazing upsurge in the amateur solar astronomy market. David Lunt's revolutionary design work at Coronado set the stage for the industry to go from the realm of the university scientist to that of the average consumer. David's son, Andy Lunt, has taken the hobby to extremes of technology and styling that his father could never have imagined and made it even more available to the amateur around the world. Lunt Solar Systems seems to add something new almost monthly to their extensive lineup of available solar telescopes and filters.

The LS152THa/CaK/Solar wedge setup is an extraordinary all in one solution to the amateur appetite for high resolution narrowband solar viewing and

imaging.

The LS152 system is basically an $f/6$, 900-mm focal length, 152-mm achromatic refractor designed to allow for the use of all three popular types of amateur astronomy. It has a modular design which allows for the insertion of either a H-alpha module using an internal single etalon ($<.7A$) or double-stacked ($<.5A$) internal etalons, a choice of three sizes of Calcium K line (393nm) filters with removable energy-rejection filter, or a 2-inch white light Lunt solar Wedge. The scope can even be used as a high-quality night sky observing instrument by replacing the solar wedge with a standard diagonal. This scope could very well be the only thing you need to enjoy solar or conventional night astronomy in one package!

Hydrogen Alpha

Using the LS152 in the Hydrogen Alpha mode is as easy as 1,2,3. The scope is housed in a sturdy golf-bag style hard-shell case or aluminum sided hard-shell case which will hold all the modules as well as a couple of eyepieces.

Simply insert the red H-alpha module into the rear of the refractor and put in a Lunt Zoom eyepiece and you are ready to go. The views are breathtaking through this instrument in either the single- or double-etalon modes. There is a thin line of reddish gray spicules on the edge of the H-alpha Sun which took my breath away upon my first use of this scope. I had never seen them visually before in any of my other H-alpha big guns. The ample aperture of this

system allowed these spicules to jump out at me the very first time I looked.

The included pressure-tuned etalon is a remarkable leap forward in solar scope technology. With this system the etalon never moves, tilts, or flexes, causing the dreaded sweet spot in so many competitors. The entire etalon is housed in an airtight barometric chamber and uses changes in air pressure (+/- 3 p.s.i.) to change the refractive index of the air between the etalon surfaces. The control for the pressure tuning is a motorcycle throttle style grip that equals its functionality with a smooth and innovative styling. The precise tuning and even illumination produced by this Doppler true tuning design is an exclusive feature on the Lunt Solar Systems scopes.

The H-alpha module is equipped with a 2-inch top-of-the-line Feather Touch focuser. You can insert any of the available H-alpha blocking filters (6-mm-34-mm) into this focuser and



Image 1 - Lunt LS152 pictured above (right) with Coronado 90 mm DS and Explore Scientific 127 mm in background for size comparison.

have plenty of in focus and back focus. I am able to focus any of my cameras, binoviewers or eyepieces easily with room to spare using this innovative design.

Calcium K

Now the fun part! To switch to either the CaK or Solar Wedge mode, simply loosen the three thumbscrews at the rear of the refractor and the entire



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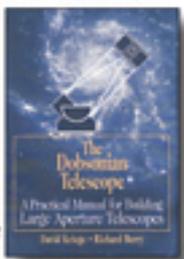
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Image 2 - LS152 shown in H-alpha mode with B1800 blocking filter on CGEM mount.

H-alpha assembly slides out easily, allowing for insertion of the Calcium K/Solar Wedge module. The CaK module comes with its own stock Crayford 10:1 focuser and also has an available

Feather Touch focuser. Just like with the H-alpha mode, you choose the size CaK filter that you want to use (12 mm–34 mm) and simply insert it into the module. Then you slide the entire module

into the scope and tighten the three thumbscrews. Just like that you have transformed your top-of-the-line H-alpha scope into a large aperture Calcium K scope on the fly without ever removing it from the mount...simply amazing if you ask me.

White-Light Solar Wedge

So, if that wasn't enough Andy and Brian over at Lunt Solar Systems decided to make it a white-light/Solar Wedge scope as well. Remove the CaK diagonal from the focuser and insert the 2-inch Lunt Solar Wedge into it and you now have a fantastic high-resolution setup for viewing white-light features like sunspots, faculae, and granulation. Remember, we still haven't removed the scope from the mount or torn down anything to set up a different scope. This is all using the same base refractor!

One more thing...simply remove the wedge from the focuser and insert a stan-

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dard diagonal and you know have very respectable f/6 night sky refractor. Thought I'd throw that in there just in case you were wondering.

Another neat feature of this well-thought-out design is that there is no need to ever try and find the Sun by looking directly at it. The solar finder required on so many other offerings in this market is unnecessary on this scope as it has, as a result of its incredible design, a built-in solar finder right on the mounting rings. All you have to do is look in the reverse direction down the tube and wait until the forward rings shadow is aligned with the aft rings surface and you have a perfectly aligned solar scope without any need for adjusting the finder...ever.

I have been using the LS152 extensively in my imaging and outreach for close to a year now and I can tell you it is a marvel to see and use. It is a monstrous scope when compared to my others and always gets all the ooohs and ahhs from participants.

When the scope is torn down and packed up it fits neatly into either case and is only moderately heavy and very easy to transport with the included wheels on the golf-cart-style case. If you have carried around big Schmidts for years like me, this one is as light as a feather in comparison.

Thank you for reading and I certainly hope that all of you get a chance to look through this marvelous scope! 

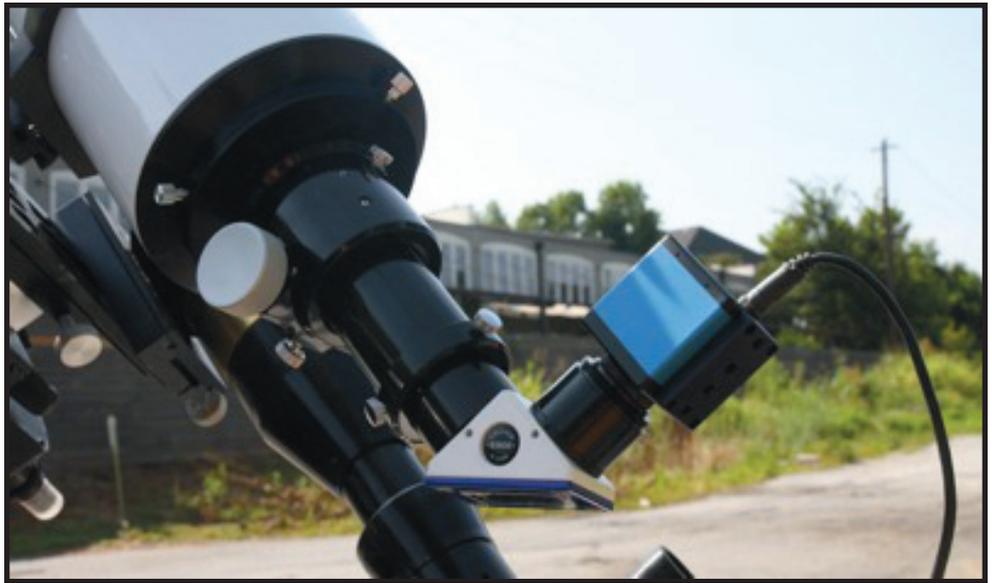


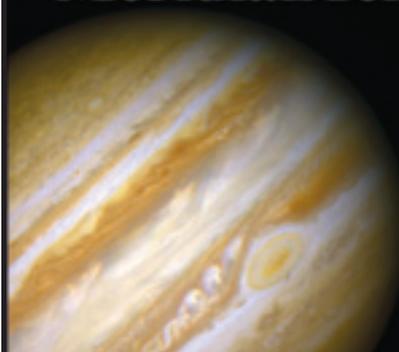
Image 3 - LS152mm scope in the with the CaK/white light module inserted.



Image 4 - Set up as a white light/Solar Wedge scope.

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