

# 2009 LUNT LS35THaDX REVIEW

Review by Stephen W. Ramsden ([spike@solarastrophotography.com](mailto:spike@solarastrophotography.com))

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Art. No. LS35THaDX

## LS35THa Telescope - Deluxe Package

### The New LS35THa Deluxe!

The LS35THa dedicated Hydrogen-alpha telescope is the most compact 35mm etalon system currently available.

An unobstructed, front mounted 35mm etalon provides a bandpass of <0.75 Angstroms. Prominences and some surface detail can quickly be viewed thru this very portable single stack system. Add it to an existing system or use as a quick grab and go...

Because the LS35THa is small and compact it is ideally suited to being stacked side by side for Binocular viewing. The biggest OD of the LS35THa is 62mm.

### Specifications:

- Aperture: 35mm Unobstructed Front Mounted Etalon
- Band Pass: <0.75 Angstroms
- Focal Length: 400mm
- Blocking Filter: 6mm; Full Disk Image up to 400mm Focal
- 1.25" helical focuser, all normal 1.25" eyepieces can be used
- biggest tube diameter: 62mm
- main tube diameter: 55,5mm
- Tube length without blocking filter: 340mm
- Tube length with blocking filter: 415mm
- Weight without holder: 1800gr

### LS35THaDX Deluxe Package Includes:

- LS35THa Telescope Assembly
- Mounting Rings with Standard Base
- Mounting base with 1/4-20 photo-tread
- TeleVue Sol Searcher
- 10mm LS Eyepiece 70° , 1.25"



Delivery starting in February 2009 !

Price 599.00 \$

## REVIEW:

The LUNT LS35THaDX dedicated solar telescope arrived in a white cardboard box with the standard LUNT shipping tape. It had 3 pieces of hard foam on the inside that were cut to fit around the telescope. The telescope was firmly held in place by this structure.



The box contained:

- 1 LUNT LS35THa Users Manual
- 1 LS35 telescope with an external attached 35mm etalon
- 1 B600 Halpha Blocking Filter
- 2 Mounting rings attached to a standard 2 inch dovetail plate
- 1 10mm 70deg FOV 1.25 inch LUNT eyepiece
- 1 Televue Sol Searcher

From one end of the to the other were a rubber lens cap over the end of the etalon, an externally mounted 35mm Halpha Etalon with brass tuning wheel , a 35mm singlet objective, a long black metal OTA, a televue sol searcher, a twin mounting ring assembly, a 1.25 inch B600 blocking filter, a helical focuser which was part of the blocking filter and a plastic eyepiece plug or the supplied LUNT 10mm 70deg FOV eyepiece. My tube was black because it was built in the prototype stage. The finished product will have an all white tube.

LUNT also tells me that they are finishing production of a case that



will accommodate the scope with room for cutting a hole for the rings in place and the double stacking etalon. The etalon will thread directly into the end of the existing etalon.



The telescope was very solid feeling and seemed to be machined quite well. The tube was black instead of the pictured white on the web site as stated earlier because of its prototype nature. The blocking filter had a nicely made orange plaque on the bottom of it with a nice Made in the USA logo. The etalon was firmly fixed to the end of the tube and did not move at all. The blocking filter was held into the tube assembly by a brass compression ring with one metal tension screw. Excellent design and construction.



It was slightly heavier than the PST and much better made. The list of advantages over the PST design is a long one.

- Larger externally mounted etalon with no central obstruction
- Included high quality 10MM 70deg FOV eyepiece
- Included mounting rings and dovetail plate
- Helical focuser with no shake or image shift (the FOV did rotate with the focuser though)
- Rotatable blocking filter/diagonal allows for views from any angle as tracking mount moves
- Superior Televue solar finder included
- No shaky inner prisms or focuser screws
- Brass compression ring holding blocking filter into tube
- Brass tilt wheel instead of the "rubber tube turner"
- Ability to balance the tube by moving it in the mounting rings
- Approximately \$399 tunable double stacker etalon available as an option
- Large metal case with lots of extra room optional

LUNT tells me that they have designed their own zoom eyepiece for use with their products. They also have a 35mm no obstruction double stacker etalon rated at  $<.7\lambda$  that will screw onto the end of the existing etalon. It will retail for \$399 which is a far cry from the \$799 for the PST SM40 stacker. (Rumor has it that the etalon may also function to double stack another familiar entry level Halpha scope. :)



I attached the LS35THa to my standard CGE triple mount with the Coronado 90DS and a single etalon PST all sitting on top of my Pinnacle portable pier from Shahin at the Particle Wave Technologies. I took the setup out to the Charlie Elliott Wildlife Management area 60 miles ESE of Atlanta. The skies were partly cloudy with large cumulus clouds passing by occasionally. It was 74 degrees F with a 8-12 knot wind from the NW. I would say it was a 6 out of 10 as far as viewing conditions went. My friend and avid cloudy nights poster Marie joined me to give another opinion on the scope. I used a DMK31 monochrome camera for all shots and several different eyepieces in each scope including a Hyperion 8-24mm adjustable zoom, 18mm and 25mm CEMAX's, a CEMAX 2X Barlow lens and the included 10mm LUNT eyepiece.





After aligning the CGE Marie and I set our sights on our nearest star. Looking through the DS 90mm as a guide, there was a small active region near the center of the disk and a group of 3 or 4 prominences on one corner and a couple of very small prominences on other parts of the disk. We then each took turns looking through the single PST and the LUNT LS35THa.



(The locals did not seem to be very interested.)

We started with the 18mm CEMAX in both telescopes. Immediately we both noticed that the LUNT LS35 presented a much brighter image. The prominences through the LUNT were easily visible to both of us and they had inner structure and showed different degrees of brightness from top to bottom. The PST showed the same group of prominences to me but a lot fainter. Marie said that she could not see them at all through the PST. Marie has a little less time on Halpha so her eyes had not learned to see the details yet like mine had. She could easily see all of the prominences through the LUNT but none at all in the PST. The surface detail was about the same in both scopes in that it was barely visible. The LUNT's brighter image made it easier to use for proms or surface detail. The PST was a dimmer image with harder to see details and prominences.

The LUNT scope was really a surprise in that it was so much better visually than the PST. The image was crisp and clear and the prominences just jumped out at you. Marie and I were both blown away at how sharp the image was. I then attached the DMK camera to get some shots.

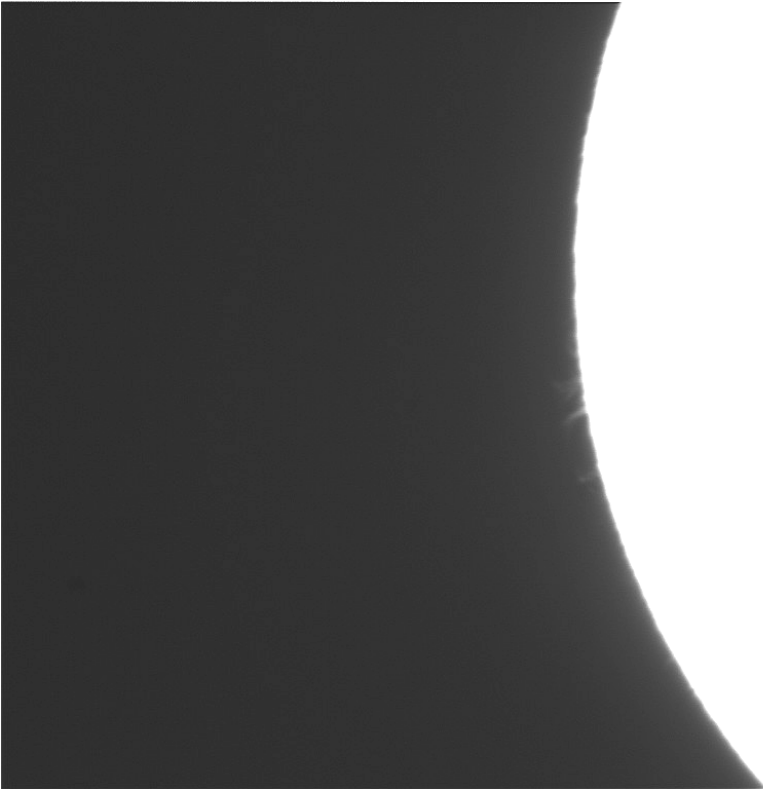
The DMK31 would not come to focus on the LUNT LS35 without a 2X Barlow. That was unfortunate because I think it would have made for some exceptionally good wide field prominence/full disk photos. The LUNT LS35 would also not come to focus with the Hyperion 8-24 zoom eyepiece. It did have plenty of room for all of the other eyepieces but just needed about 4mm more infocus for the camera and the zoom eyepiece. I attached a Barlow to the camera snout and started taking avi's.

The below images show the differences between the raw images taken from the PST and the LUNT LS35 after alignment and stacking in Registax 4.0.

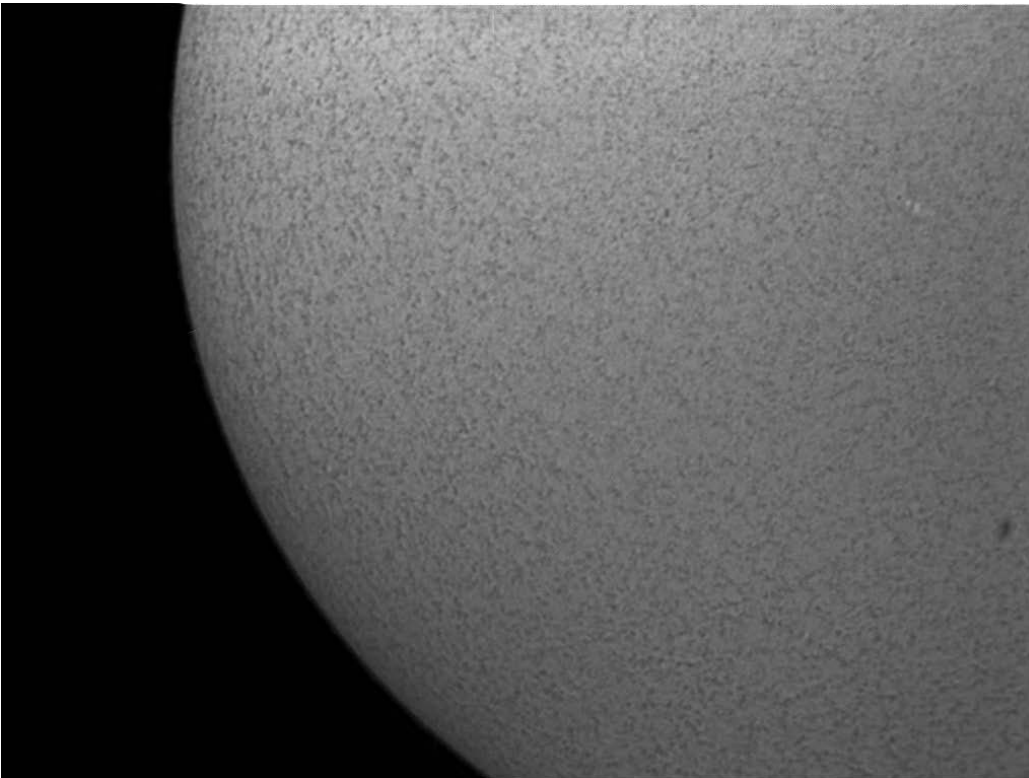
The LUNT LS35 on a prominence group.



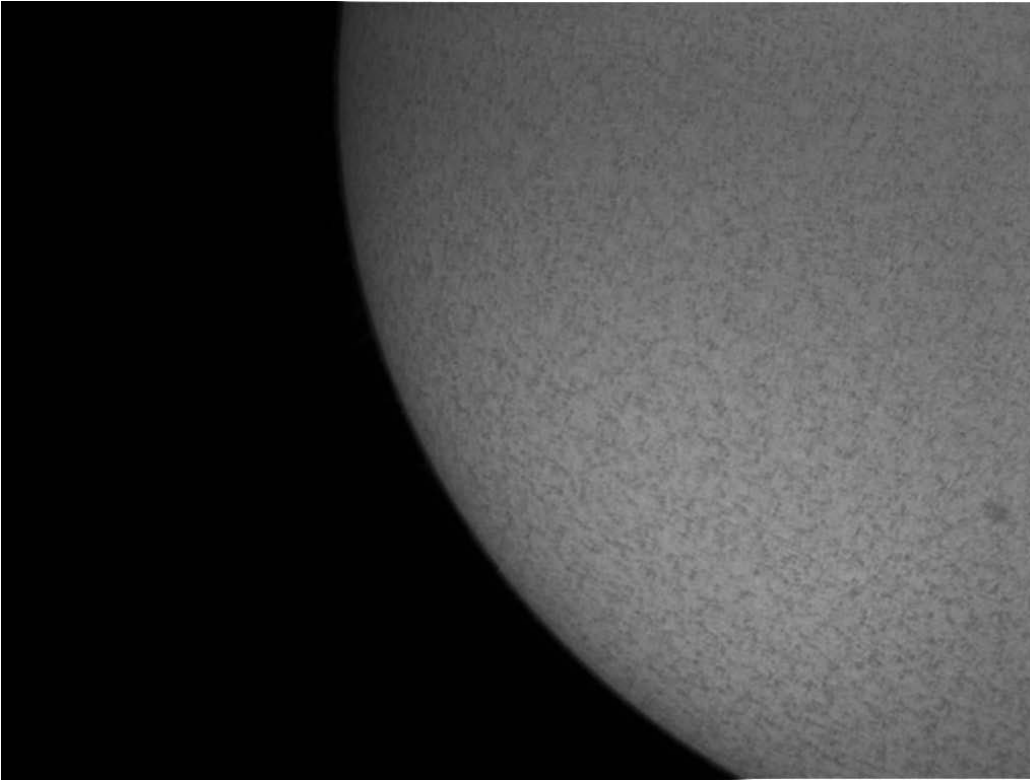
The same prominence group with the PST using the same settings.



LUNT LS35 on surface detail with the DMK31



The same area with the PST and DMK31



### **THE BOTTOM LINE**

### **THIS TELESCOPE ROCKS!!!**

#### **Pros-**

The LUNT LS35THaDX far outperformed the PST in every way mechanically, visually and photographically.

The crisp bright image through the LUNT LS35 was exceptional and easy to observe.

The LUNT LS35 Includes eyepiece and mounting hardware for out of the box immediate use.

The mechanical soundness of the scope is excellent and the included accessories added to make it the obvious entry level choice for the Halpha enthusiast. **Great Job LUNT!**

#### **Cons-**

This particular prototype LUNT did not have enough in-focus to use the DMK camera or the Hyperion 8-24 Zoom. LUNT tells me that they may shorten the tube by 5-8mm to fix this and that they have their own zoom eyepiece for use with their scopes.

The helical focuser while exceptionally smooth also moves the eyepiece or the camera field of view with it when you turn it.

Thank you for reading,

Stephen W. Ramsden

[www.solarastrophotography.com](http://www.solarastrophotography.com)