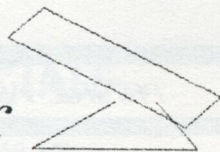


The Prairie Astronomer



Lincoln No.

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2" Eyepieces.....

Recently University Optics came out with a line of 2" eye pieces of 10mm, 13mm, 17mm, and 20mm. They sell the same series in the 1.25" format except that the 1.25" series also contains a 26mm eyepiece. They cost \$52.95 for the 1.25" format and \$65.95 for the 2" format. What do you get for your extra \$13.00 in the 2" format? Nothing!!! To explain why I will omit the mathematics and use some very general rules of thumb which will be sufficient in this case.

The only reason for going to the 2" format is to allow a wider image to reach the eyepiece from the telescope. A 1.25" eyepiece can accept up to a 1" image (25mm) and a 2" eyepiece can accept a 1.75" image (45mm). Hence their potentially wider field of view. The advertised eyepieces are of the plossl design. With most plossls the diameter of the real field of view is about 90% of its focal length. Thus, a 26mm plossl like the one they sell only in the 1.25" format can see a 23mm real field of view. This fits nicely, but tightly, into a 1.25" draw tube and just reaches the eyepiece with little to no light loss at the edges. Hence it is about the longest focal length offered in this design in the 1.25" format. So far University Optics is doing just fine. So why the heck did they come out with the shorter focal length ones in 2" format as well as 1.25" format? Both see exactly the same thing. Save your money folks and ignore any 2" eyepiece that's under 30mm in focal length.

The 2" eyepiece only comes into its own in focal lengths from 30mm to 55mm. Here, providing your telescopes give a usable field of 45mm, they can be of some use. Few of our telescopes can provide much over a 1" usable field. Newtonians have coma beyond this point unless the $f/$ ratio is high and the mirror large. A combination that's unmanagable in most cases. Schmidt-cassegrains advertize wide field but it doesn't get through the small hole in the mirror in the 8" size. They show about a 50% light loss once you get much beyond the 1" field. Meade's designing is a bit better than Celestron's in this respect. What this means is that unless your telescope has been designed in the first place for 2" eyepieces they will usually give little or no additional real field of view. Our C-14 at Hyde is the only telescope I have seen that can accept them without a severe problem. Even then the edge of its field is about one f stop slower than the center!

Unless you are sure of what you are doing, save your money and stick to the 1.25" format.

Rick Johnson

Newsvarhty Notes.....

This last month I received a postcard from Curt Rolle one of our members from MD. He had informed us that he was just presented his certificate of achievement of the Hershel Award. Now for those of you

out there who have your Messier Award, which is an achievement in itself the Hershel is more involved, complex and takes a greater understanding of the sky. So congratulations goes out to Curt. Even more so when you realize there are only 10, count them, 10 winners of the Hershel Award in the world! I did not realize this and now am anxious to get back out and continue with mine. Anyone else?

Missouri Western State College, St. Joseph Missouri is the site of the 1984 Mid-America Regional Science and Engineering Fair (MARSEF). This event is held April 6 & 7th. Jerry Sherlin Astronomical League President is the guest speaker April 6th. His talk will center around Astronomy in America Today. Those interested in attending should contact William F. Andresen, Dept. of Biology 4525 Downs Drive St. Joseph Mo. 64507

The Computer Corner by Russ Genzmer

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SPOC are you there? Comes a request from space. Of course I'm here. I'm always here, to tell you where you are. Sound confused? You wouldn't be if you were a Shuttle astronaut and needed information on exactly where you were in relation to earth. Now you're probably thinking Shuttle staff computes where they are at with a bloated oversized months to program computer put together by the main frame boys. Wrong micro breath! The astronauts keep themselves posted as to their whereabouts by SPOC, the Shuttle Portable Onboard Computer. It is an off-the-shelf Grid computer by Compass. This handy little micro runs MS Dos as an operating system and uses an 8086 as the main microprocessor. Its use came about by a request by the shuttle astronauts to give them the same ability to plot where they are at as the control center at Houston has via their 30 foot wall map screen. The project the engineers had in mind would have been too complex and expensive. So enter the micro. The Grid, once it survives lift-off is taken from its case and snapped to Velcro strips above the astronauts heads. There it is booted to life. It now provides instant at-a-glance information on orbit stats. In the past this information was received from ground control. At all times 3 dotted lines are displayed. One for the current orbit and the two that will follow. It also displays MET or mission elapsed time. And also EOS or earth observation sites are also displayed in a portion of the monitor. Also LOS or loss-of-signal times are computed as well as AOS or acquisition-of-signal.

In the future landing opportunities and contingency landing sites may be computed by the Grid.

Next month I'll have information on how, with some available data from NASA and your home computer you can follow the tracking of the Shuttle flights.

Russ Genzmer

***** Observer's Report *****

Star Parties are scheduled for March 2nd and March 30th weather permitting. March presents the transition from winter's open clusters to spring's galaxies. In Hydra, the open cluster M48 is a nice fairly compact group of about 50 stars located about two degrees south and three degrees west of 30

BOW-WOW'S, AND OTHER SPECIALS...

Yes, it's time for our monthly doggie sale! We're willing to let these items leave our inventory at really low prices. Most are new, still with warranty, etc. Prices are good only on the items and quantities listed, while stock lasts, and you must mention this ad when you order:

- Save \$66.50! (1) Meade 291 Telescope, Demo,
With Motor Drive Only \$275 (7.85)
- Save \$75.00! (1) Celestron 300mm Telephoto, New,
Great for Piggyback Shots Only \$175 (5.40)
(Lens Shade for Above - \$10)
- Save \$250.00 (1) Coulter Odyssey II, 17.5", Demo,
With 8x50 Straight/Right Angle Finder,
3 Swivel Casters on base, and Freight
Paid to Midland, Texas (Pick it up on
your way to the 1984 Texas Star Party,
May 30 -June 3!) Only \$995

** MONTHLY SPECIALS **

Celestron's Giant 11 x 80 Binoculars!
You've always wanted a pair of these Big Eyes
for prowling the Night Skies, and Comet Hunting.
The retail price is now up \$80 to \$364, but
here's your chance to own a pair at a really
low price:

11 x 80 BINOCULAR-----195 (5.40)
PHOTO TRIPOD-----89 (3.50)
#6 LPR FILTERS FOR 11x80---89 (3.50)
OPTICS CLEANING KIT-----25 (3.50)
(Prices Good Through March 31, 1984)

TEXAS STAR PARTY

May 30 -June 3

This is the premier Amateur Conference in the United States today! If you really care about observing you'll appreciate the darkest skies on this North American continent... those thunderclouds rising in the east each evening are really the great billowing clouds of the Milky Way! Please contact the following for information: Carol N. Rodgers, Registrar
128 North Commerce AT
Burleson, TX 76028

NOTE: Figures in parentheses are freight charges to be added to your orders. Oklahoma residents add 5% Sales Tax.

ASTRO-TECH is my night-time business (I make a living from my daytime business) so I can be very competitive on all your telescope needs. The promotional brochure I mailed last November is proof of that! Please feel free to call between 7-9pm CST/CDT on weeknights, anytime most weekends. Thanks for your orders!

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Monocerotis. In Cancer most people will be able to see 44, the Beehive cluster, located northwest of delta Cancri. Less famous but almost as nice is M67 about two degrees west of Alpha Cancri. It is more compact than M44 and its stars are fainter but it is still well worth going after with anything bigger than a four inch.

For you galaxy chasers, NGC 2683 should be a good target for telescopes in the four to six inch range. It can be found about one degree north of Sigma-one Cancri and shows up as a long fuzzy streak of light. A much brighter target is NGC 2903, a spiral galaxy located 1 1/2 degrees south of Lambda Leonis. It should be just within range of a 2.4 inch refractor and begins to look mottled in an eight inch reflector. And, speaking of galaxies seen in a 2.4 inch, try the eighth magnitude spiral NGC 2403, located about 1 degree west of the faint star 50 Camelopardalis. It shows up well even in binoculars and vaguely begins to show its spiral nature in an eight inch, although the nucleus doesn't stand out too well. NGC 2403 is also a distant member of the cluster of galaxies that include our next two targets M81 and M82 in Ursa Major. M81 is six degrees north and about three degrees east of 23 Ursa Majoris and can be seen in binoculars, although its spiral structure is vague at best even in large telescopes. M82 is just over 1/2 degree north of M81 and shows as a fuzzy cigar shaped patch of light with larger scopes showing a wealth of dark detail. My eight inch shows the central dark cleft plus at least two or three other dark masses.

For those of you trying for NGC 4236, good luck! This galaxy is a real monster as far as size goes, but it is almost too faint to see even in an eight inch. Use as low a power as possible and look about a degree west of 4 Draconis. It may be within range of a six inch, but only if you use magnifications less than 35 power. Let me know if you see it.

David Knisely

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