

East Valley

Astronomy Club

President	Tom Harvey	998-0035
Vice-President	Ted Heckens	827-1524
Treasurer	Bob Kelley	451-7319
Newsletter	Bill Smith/Roy Halverson	831-1520/844-9563

February

Newsletter

1992

EDITOR'S NOTES

I hope you enjoyed reading last month's article about keeping some time for yourself by pursuing a hobby of your choice. Those of us in EVAC have chosen to spend our spare time looking for things we can't find, dropping things in the dark and/or tripping over things in the dark...but hey, different strokes for different folks! We wouldn't have it any other way, because when we do find that elusive object, be it a crater on the moon or faint fuzzy, we feel great!

This hobby can cost as little as a tank of gas or...well you get the idea. Many of us started by putting a chair (and maybe a pair of binoculars) in the car and heading for a rural spot away from the city lights. Clear skies, peace and quiet were all we needed. Later, we found others who were willing to share their knowledge and a view through their telescope and then we were really hooked.

Fortunately, there is a fanatastic group of people who meet regularly, both in the dark (dropping things) and at Scottsdale Community College to share information and learn more from excellent speakers. We have lots to offer those who are just starting out and maybe only have that chair, a pair of binoculars and a tank of gas. Lets do our best to make them feel comfortable and welcome.

On another note, you'll see inside a current list of members who are paid up for 1992. We need you! So if you don't see your name, please use the enclosed Membership Form to add your name to the list. We ended 1991 with over 60 members and would like to start 1992 with at least 50. We are a young organization, but growing each year. If you do see your name on the list, pass the form to a friend or neighbor. We all need a leisure time activity of losing things in the dark!

MARK YOUR CALENDAR

EVAC BUSINESS MEETINGS

February 19- SCC RoomPS 172

Guest Speaker - Dark Sky Association

DEEP SKY STAR PARTIES

February 1 - (see map page 2)

February 29

March 7

April 4 SAC/EVAC Sentinel AZ

LOCAL STAR PARTIES

February 22 - Goldfield Site

EVAC NEWS

by Roy Halverson

Backyard Observatory Links Telescopes and Computers

Stan Student's description of his backyard observatory left his audience at the January meeting of EVAC green with envy.

A retired executive with complimentary hobbies: astronomy, photography and computing, Student has built a facility any city could be proud of.

His telescopes are a Meade 10-inch Schmidt-Cassegrain and a 3.5-inch Questar. They are tied to a series of computers located in his home some dozens of feet away. Computers, Student said, are adversely affected by heat and cold, so they are in a controlled environment.

The observatory itself is a hexagon about 10 feet in diameter and 10 feet high.

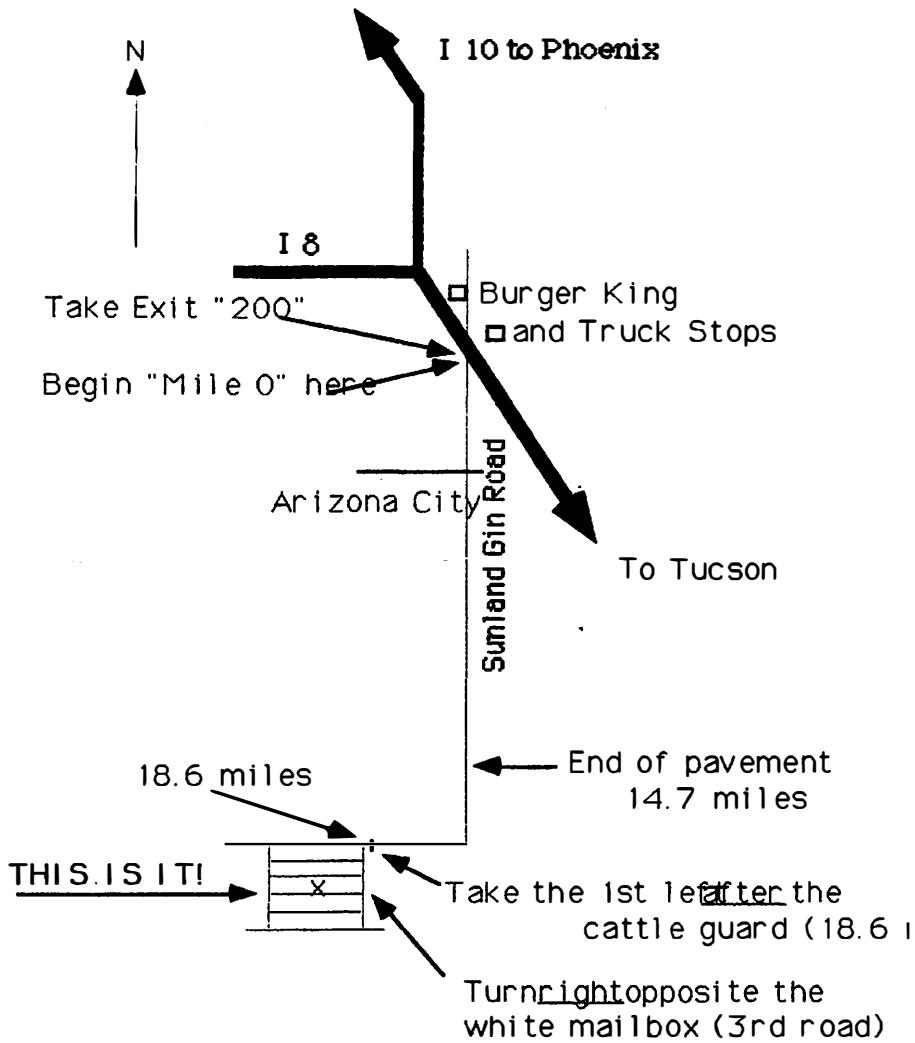
Student said his construction objectives were that it be unobtrusive, convenient to use and relatively inexpensive. The dome has a low profile, he can prepare of a night's viewing in less than 10 minutes, and the structure cost less than \$1,000 to build.

Although he does much observing through a series of eye-pieces, he captures many images with a CCD. Signals from that device are carried via underground wiring to a series of electronic processors in his house. There they are stored electronically and manipulated for greatest effect with an AT&T minicomputer among other devices.

Student uses several off-the-shelf computer programs, but has written some himself. His electronic data base holds RA. and declination information along with a host of other technical data on sky objects. But it also includes details about the observations themselves such as quality of seeing.

The data base has information on more than 9,700 planets, galaxies and nebulae.

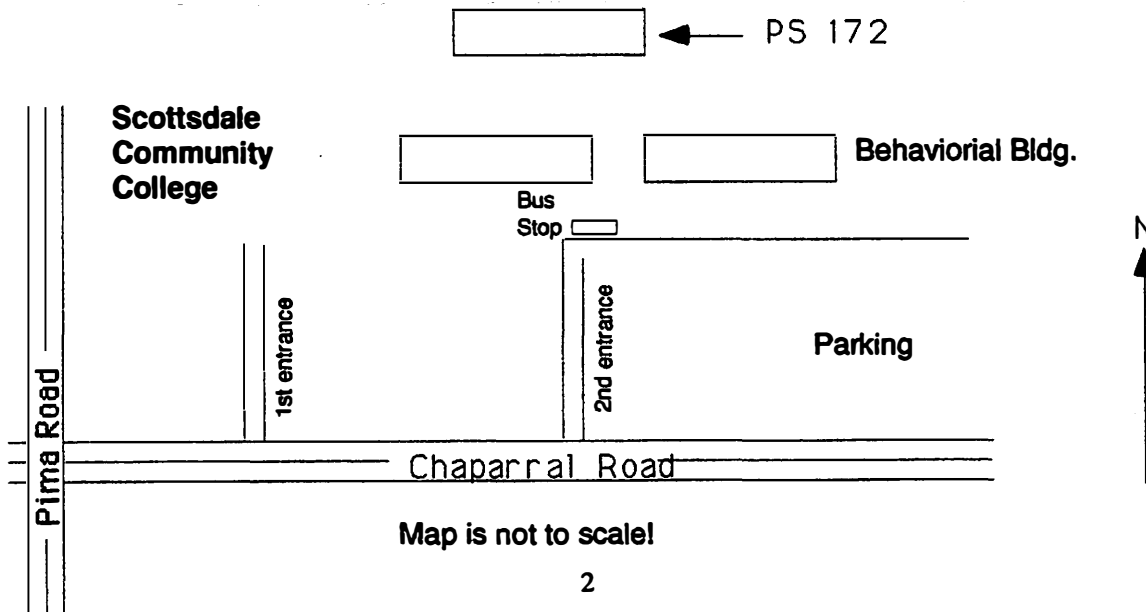
His videotape showing the observatory included several gorgeous processed images of celestial objects.

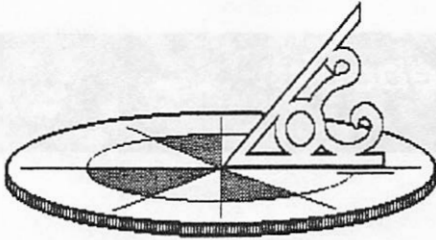


Believe it or not, they named the street opposite the white mailbox:
MOON CHILD!!

FEBRUARY 4th and 29th

Call Bob Kelley four hours prior to departure for final information and directions! 451-7319.





February's Highlights
1992
by
Byron Scott

Calander Events for February

- 03 Mon. New Moon
- 06 Thur. Alpha Aurigid meteor shower
- 08 Sat. Theta Centaurid meteor shower
- 11 Tue. First Quarter Moon
- 17 Mon. Moon at perigee
- 18 Tue. Full moon
- 25 Tue. Last Quarter Moon
- 29 Sat. **Leap Day!**

Mars-accompanied conjunction of Venus and Saturn. This will be the last naked-eye "Trio" of planets until late 1995. A crescent moon will ride high above the planets.

Jupiter's Opposition!—This is the day that Earth lies between the Sun and Jupiter. It will be a good time for binocular and telescopic viewing of Jupiter.

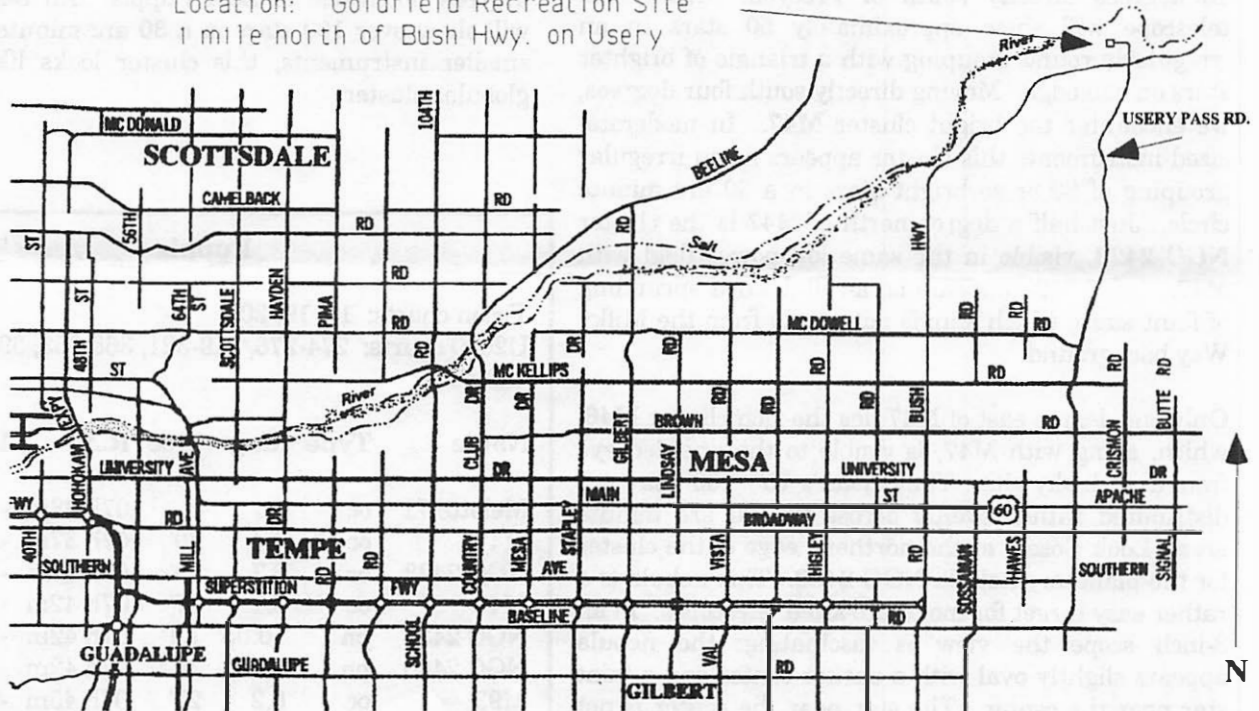
This is our second Deep Sky star party planned for February. Don't miss this opportunity to view Jupiter.

February Flashbacks

American astronaut, John Glenn, orbited the Earth three times aboard Friendship 7 in less than five hours on Feb. 20, 1962. He was the first American to orbit Earth!

February 22nd Local Star Party

Location: Goldfield Recreation Site
1 mile north of Bush Hwy. on Usery



NOTE: If taking the Superstition, exit at Power Rd. (Bush Hwy. and Power Rd. are the same.) If taking Usery Pass Rd., exit at Ellsworth (they are the same also.)

The Deep Sky Notebook

by Robert Kerwin

Probing Puppis

The constellation Puppis lies in a rich region of the Milky Way east and south of Canis Major. Scanning southward from the galactic anti-center in Auriga, the appearance of the Milky Way begins to change in Puppis, growing in width and intensity. Unfortunately for Arizona observers, this change occurs just north of where the Milky Way drops below the southern horizon! The brightest star in the constellation is 2nd magnitude Zeta. In the case of Zeta Puppis, appearances are deceiving; although only 2nd magnitude, Zeta is actually a type O supergiant with a luminosity 60,000 times that of the Sun. Its distance of 2400 light years is the reason for its relative faintness. Puppis contains examples of all types of deep sky objects, but open clusters predominate.

Let's start our exploration of Puppis by looking at **Melotte 71**, an open cluster just south of the Monoceros border. Melotte 71 is about 1.5 degrees southwest of Alpha Monocerotis, a 4th magnitude star 15 degrees directly south of Procyon. An 8-inch telescope will show approximately 50 stars in an irregularly round grouping with a triangle of brighter stars on one edge. Moving directly south four degrees, we encounter the bright cluster **M47**. In moderate-sized instruments this cluster appears as an irregular grouping of 50 or so bright stars in a 30 arc minute circle. Just half a degree north of M47 is the cluster **NGC 2423**, visible in the same low-power field with M47. NGC 2423 appears as an ill-defined sprinkling of faint stars, which stands out poorly from the Milky Way background.

Only one degree east of M47 lies the rich cluster **M46**, which, along with M47, is visible to the unaided eye from a dark sky site. The cluster's 75 - 100 stars are distributed rather evenly across the 30 arc minute area. Look closely at the northern edge of the cluster for the planetary nebula **NGC 2438**. This nebula is a rather easy target for moderate-sized telescopes. In an 8-inch scope the view is fascinating; the nebula appears slightly oval with a darker center and a faint star near the center. The star near the center is not the actual central star (which is invisible in amateur instruments). Although M46 and NGC 2438 appear to be physically related, the nebula is actually a foreground object that happens to lie along the same

line of sight as the cluster. Interestingly, another planetary and cluster pair should also be visible at this time. **NGC 2818** in Pyxis (coordinates 09h 16m, -36.6) is smaller and fainter, but not difficult in 8-inch or larger scopes. Compare the two objects--what do you think?

About 3.5 degrees directly south of M46 is the planetary **NGC 2440**. This nebula appears as a bright oval disk with diffuse edges. The edge appears more diffuse at the ends of the long axis. Continuing south about 5.5 degrees, we encounter **M93**. This beautiful cluster contains about 50 stars in a 10 arc minute circle, and has a bright, compact core. The cluster seems to be slightly elongated southeast-northwest. Approximately eight degrees south of M93 is the cluster **NGC 2439**. This cluster contains about 30 stars in a 10 arc minute area and seems to be slightly oval. The star R Puppis, a suspected variable, lies within the cluster boundary. Our final object is **NGC 2477**, a spectacular open cluster. It is about three degrees northwest of Zeta Puppis. An 8-inch scope will show over 100 stars in a 30 arc minute area. In smaller instruments, this cluster looks like a loose globular cluster.

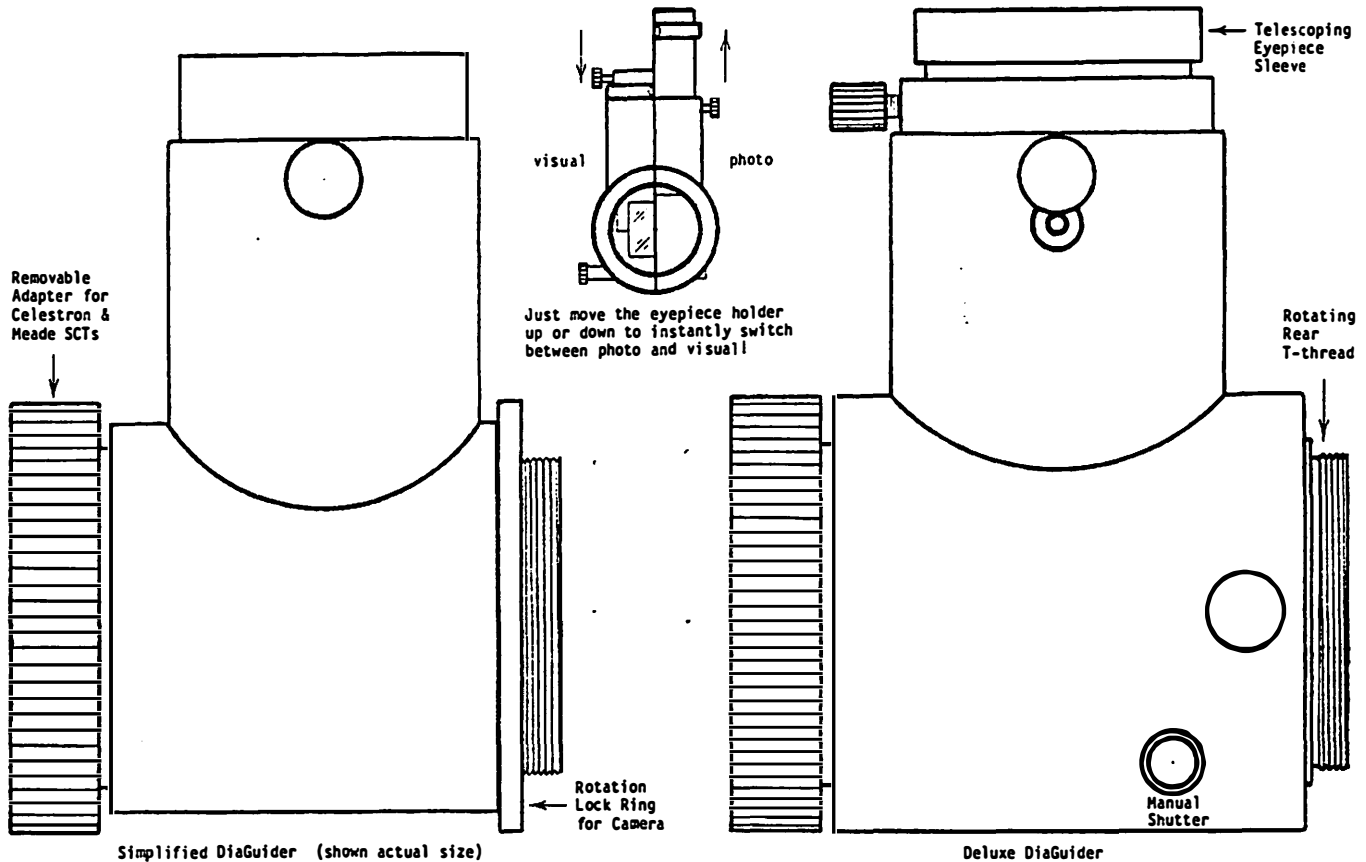
Puppis

Tirion charts: 12, 19, 20

U2000 charts: 274-276, 319-321, 360-363, 394-396, 422-424

Name	Type	Mag	Size	R.A.	Dec.
Melotte 71	oc	7.1	8'	07h 38m	-12.1
M47	oc	4.4	30'	07h 37m	-14.5
NGC 2423	oc	6.7	19'	07h 37m	-13.9
M46	oc	6.1	27'	07h 42m	-14.7
NGC 2438	pn	10.0p	1.1'	07h 42m	-14.8
NGC 2440	pn	11.0p	30"	07h 42m	-18.2
M93	oc	6.2	22'	07h 45m	-23.9
NGC 2439	oc	6.9	9'	07h 41m	-31.7
NGC 2477	oc	5.8	27'	07h 52m	-38.6

The Versacorp DiaGuider™ Unparalleled performance and economy.



Simplified DiaGuider (shown actual size)

Deluxe DiaGuider

If you want an affordable accessory for convenient subject acquisition and guiding with your film or CCD camera, the economical Simplified DiaGuider™ is the ideal choice. With the DiaGuider, you can instantly switch the telescope image between your eyepiece and camera. Now that special moonrise picture won't get away while you juggle accessories! Add to this the convenience of a built-in off-axis guider, and you begin to appreciate the valuable contribution that only the DiaGuider can make to your telescope. Now you can really enjoy astrophotography!

Other than the Versagonal, the DiaGuider is the only accessory to combine the features of subject acquisition AND off-axis guiding. Once you have located your subject, the unique patented design of the DiaGuider allows you to instantly select the guiding function without changing accessories!

FEATURES & APPLICATIONS:

- 1-1/4 INCH STAR DIAGONAL
- T-THREAD CAMERA COUPLING
- FULLY ADJUSTABLE OFF-AXIS GUIDER
- INSTANTLY SWITCH THE TELESCOPE IMAGE BETWEEN YOUR EYEPIECE AND CAMERA
- No more fumbling with adapters when you switch from photo to visual
- Easy subject acquisition for film & CCD cameras
- Locate dim subjects in your low power eyepiece
- Accepts reticle eyepieces and CCD autoguider
- Observe AND photograph eclipses & other events
- Simple and easy to use
- Compact - fits most telescope cases
- Adaptable to a wide variety of instruments via Universal Scope T-thread.
- Compatible with Celestron f/6.3 Reducer/Corrector #1112 Simplified DiaGuider \$195.00

The popular Deluxe DiaGuider™ has all of the Simplified DiaGuider features and even more!

- ROTATING T-thread camera coupling. Just loosen a single lock screw to rotate your camera.
 - TELESCOPING EYEPIECE SLEEVE. Parafocalize even more eyepieces with your camera.
 - MANUAL "SHUTTER" to interrupt guided exposures or get a "dark field" without interrupting your view of the guide star. No longer do you have to endure the monotonous task of continuously guiding your exposures. Now you can take a break!
- #1122 Deluxe DiaGuider \$295.00

The DiaGuider requires a T-ring for your camera. Most are \$19.00. DiaGuider includes a rear cap, instructions, and an adapter for popular SCTs. Adapters can be substituted to adapt the DiaGuider to other scopes: Short T-adapter for Cel/Meade SCTs (included w/DiaGuider) #1666 \$39.00 T-adapter for 1-1/4" focuser. Accepts 1-1/4" filters. #1637 \$29.00 T-adapter for 2" focuser. Accepts 48mm & Series 6 filters. #1639 \$49.00 To order DiaGuider without a telescope adapter, subtract: \$20.00

Prices and specifications subject to change without notice.

SPECIFICATIONS:

	Simplified DiaGuider	Deluxe DiaGuider
* Body Dimensions:	4.1"H, 2.0"W, 2.2"D	4.1"H, 2.2"W, 2.5"D
* Weight:	9 oz. (256g)	10 oz. (284g)
* Distance from front of DiaGuider to Focal plane of 35mm camera:	4.4" (111mm)	4.7" (119mm)
* Clear Aperture of Diagonal Prism:	.98" (25mm)	.98" (25mm)
* Clear Aperture to Camera:	1.5" (38mm)	1.5" (38mm)
* Front Mounting Thread:	T-thread	T-thread

COMPATIBLE ACCESSORIES:

MicroStar™ A versatile multiple knife edge focusing aid which is used in the DiaGuider's convenient right angle 1-1/4 inch eyepiece holder. Now you can quickly and easily set the telescope focus for your camera! The Versacorp MicroStar™...simply the best! #1601 \$69.00

2 inch long eyepiece extender. For guiding when using telecompressor #1567 behind the DiaGuider. #1532 \$25.00

T-thread Series 6 filter holder. Also used as a compensating extension tube when using the SpectraSource camera for autoguiding. #1690 \$29.00

VersaDrawer™. Conveniently change filters, Barlow lenses, and other optics without removing your eyepiece or camera! This patented T-thread filter/optic drawer accepts Series 6 and 1-1/4" filters and optics in Versacorp Series 6 Optidisc™ cells. Shallow 35mm depth. #1422 \$399.00 (S.O.)

Series 6 **Optidisc™** Photo-visual optics in versatile patented cells that can be used in the VersaDrawer and other Series 6 filter holders. Available in magnifications of 0.5x, 0.7x, 1.5x, 2x, and 3x. \$79.00 ea.

OPTIONAL ENHANCEMENTS: (all are special order items, subject to lens delivery times.)

Built-in 22mm aperture Amici roof prism instead of diagonal prism. Corrects left to right image reversal. add \$195.00

Built-in selectable beamsplitter instead of diagonal prism. 50%R / 50%T available in a 24mm aperture. 30%R / 70%T or 70%R / 30%T available in an 18mm aperture. Specify R/T ratio. add \$195.00

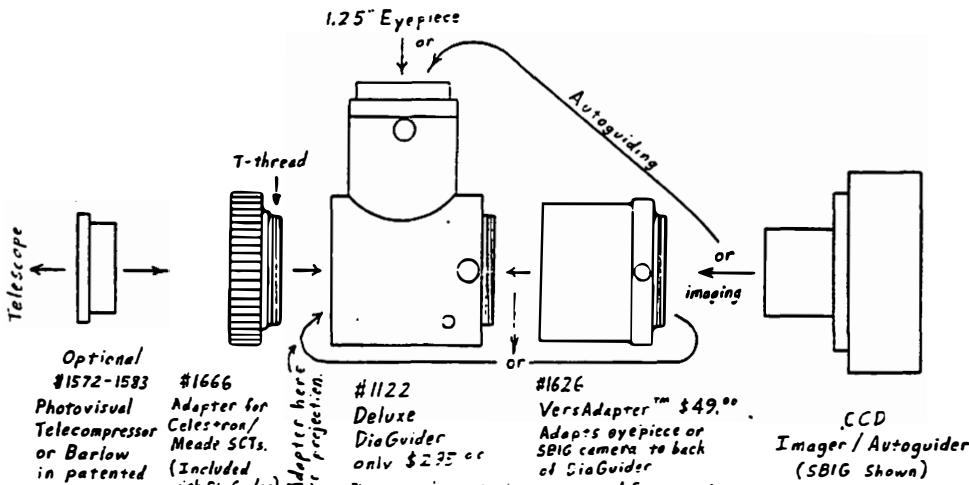
Reinforced DiaGuider housing. Necessary if heavy accessories (over one pound) are used in the DiaGuider's 1-1/4 inch eyepiece holder. This option cannot be retrofitted to an existing DiaGuider. add \$70.00

Improved field coincidence. The standard centering tolerance for the top and rear image planes is 1mm (.04"). This option improves alignment of the images to within 1/4mm (.01") of each other. Recommended for photometric or other applications where very accurate centering is required. add \$70.00

To retrofit the above options to an existing DiaGuider, also add \$40.00

Accessories for Electronic Imagers:

Versacorp 6125190
 Jeffrey R. Charles
 P.O. Box 7
 Sun City, AZ 85372-0007
 Phone: (602) 972-1878



The Deluxe DiaGuider. U.S. Pat. No. 0310,676

Now you can enjoy easy subject acquisition and guiding with your CCD imager / autoguider!

Features:

- 1.25 inch Star Diagonal
- Eyepiece / Camera instantly selectable to easily locate subject.
- ROTATING T-thread camera coupling
- Fully adjustable off-axis guider.
- Manual "Shutter" to interrupt guided exposures or out a "dark field" for imaging.
- Accepts CCD autoguiders and 1.25 inch reticle eyepieces.

Add the inexpensive VersAdapter (#1625L) for even more versatility!

- Straight-through viewing.
- Eyepiece projection photography
- Imaging with the SBIG camera mounted behind the DiaGuider.

Adapter #1609 (\$30.00) can also be used for the SBIG camera.
 Use adapter #1608 (\$30.00) for the SpectraSource camera.
 Use adapters #1633 (\$39.00) and #1613 (\$30.00) for C-mount cameras.

Optional #1572-1583 Photovisual Telecompressor or Barlow in patented Series 6 Optidisc™ Cell. \$79.00

#1666 Adapter for Celestron/Meade SCTs. (Included with DiaGuider)

Retaining ring for Series 6 filters and Optidisc. \$1639 \$49.00 (\$10.00 to substitute for #1666)

2" Adapter. Accepts 48mm and Series 6 filters as well as Series 6 Optidisc.

#1122 Deluxe DiaGuider only \$295.00

Instantly switch the image between your eyepiece and camera! Now you can easily locate your subject!

#1626 VersAdapter™ \$49.00

Adapts eyepiece or SBIG camera to back of DiaGuider

Also used for eyepiece projection and straight through viewing.

#1561 \$149.00 0.6x - 0.5x Universal adapter telecompressor for C-mount adapter #1633 and SpectraSource Lynx camera. Only requires 1" of additional back focus. Can be "stained" with other T-comp.

Various configurations for the DiaGuider:

1.25" O.D. Eyepiece

Telescope

Scope Adapter

DiaGuider

1.25" Diagonal

The DiaGuider is the ideal "standard" accessory!

Comments: The even more affordable Simplified DiaGuider will perform many of the same functions.

2 position observing. Looser radial adjustment lock screw and pull up top section of DiaGuider to switch image to rear eyepiece.

Prime focus off-axis guided and unguided photography. Note: optional 1.25" O.D. Ronchi grating #1501 can be used in the top eyepiece holder to focus the telescope for your camera.

Autoguided Photography

Comments: If a heavy autoguiding is used, it may be necessary to use a DiaGuider with additional lock screws and heavier top components. Add \$70.00 for this modification.

Extension tube #1690 (\$29.00) required for SpectraSource.

Eyepiece projection photography. CCD imaging with eyepiece projection is possible with the use of a second VersAdapter (#1625 \$39.00)

The following require optional accessories:

Retaining ring. Optidisc™ cell.

35mm camera or CCD imager

35mm camera or CCD imager

VersAdapter or T-adapter for Celestron/Meade SCTs. #1608 for SpectraSource. #1609 for SBIG.

CCD imager

Telescope

Scope Adapter

DiaGuider

1.25" Diagonal

Subject Acquisition for CCD imaging. Just pull up the top section of the DiaGuider to instantly switch the image between your eyepiece and camera!

Observation, photography, and CCD imaging with optional Denin Farlow patented Optidisc™ cell. Versacorp Series 6 Optidiscs can be used in the Series 6 filter holder on Celestron and Meade SCTs or in 2" adapter #1639 or extension tube #1690.

CCD imaging with optional 0.6x Telecompressor. The 0.3x telecompressor can also be used with many externally focusing telescopes if the camera is rotated directly to the focus. Note: The 0.3x telecompressor can be used behind the DiaGuider with most internally focusing Cassegrain instruments, but an eyepiece extender is required to parfocalize the eyepiece and camera.

Telescope

Scope Adapter

DiaGuider

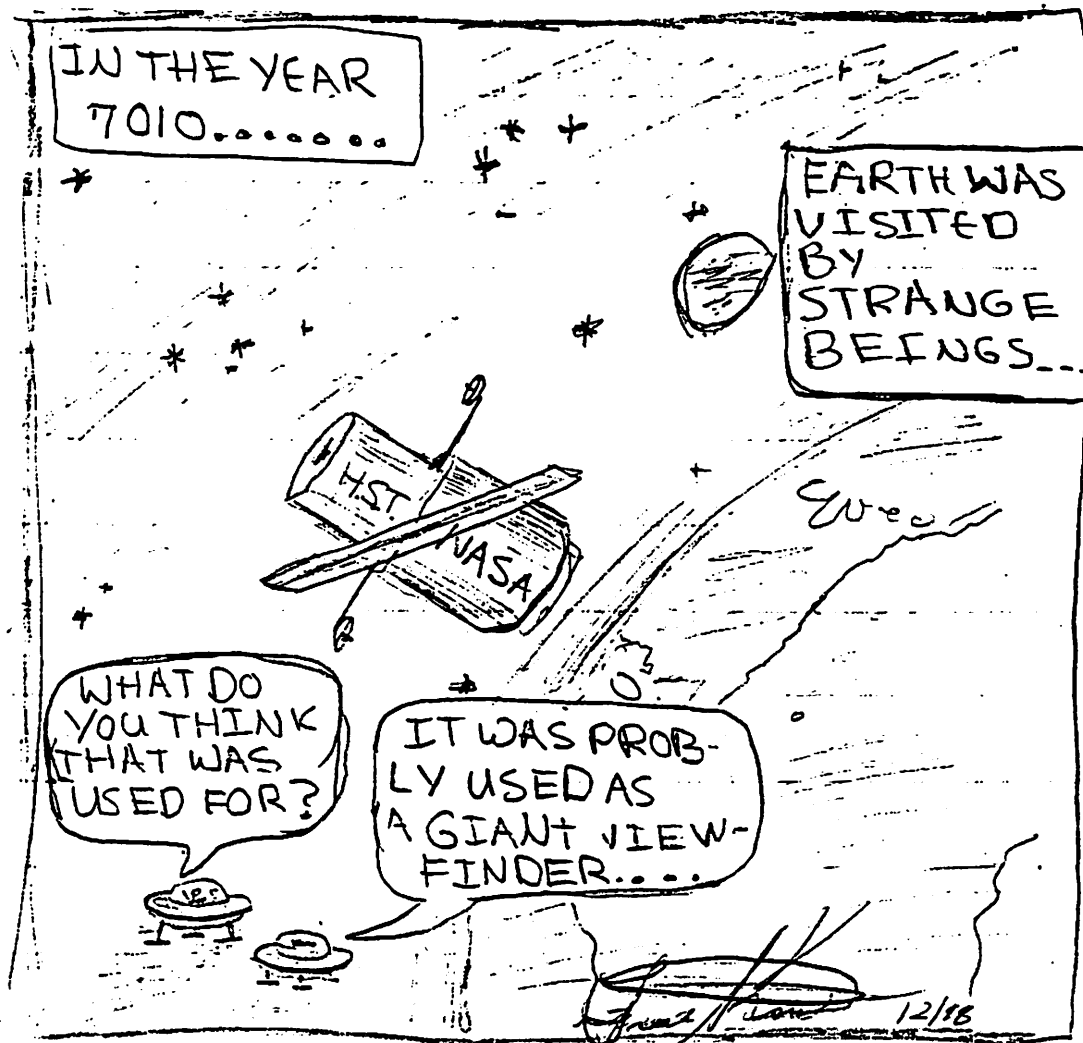
1.25" Diagonal

2 position observing with 2" O.D. eyepiece at rear position. Requires adapter #1618 (\$39.00)

EVAC Membership as of January 28, 1992 (Sorted by name)

Name

Dennis & Carolee Balley
Madhuri Bapat
David Brown
Don Carlson
Paul & Linda Cooper
John & Nellie Durham
Raul Espinoza
Don Farley
Edward Gruner
Roy & Carol Halverson
Tom Harvey
Ted Heckens
Sam Herchak
David & Mary Hoye
Jane Jackson
Michael Janes
Mark Johnston
Mike Jones
Bob Kelley
Bob Kerwin
Reuben Koenig
Gene Lucas
Gordon MacKay
Joe Murray
Everett & Judith Murvine
George & Peggy Palfy
Eric Peterson
David S. Robbins
Lika Romney
Rick Salmon
Charlie & Paul Santori
Bob & Peter Schoenthal
Byron Scott
Bill Smith
Steve Smith
Doug Smith
Annlitta Smith
Emerson Stiles
Stan Student
Bob Swanson
Bob Swift
Tucson Amateur Astronomy
Ken Willis
Russell Wilson
Don Wrigley
Art Zarkos



Cartoon by Frank Kraljic

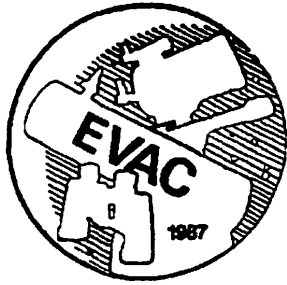


TELESCOPE TUBE

13 inch inside diameter
5 feet 8 inches length
Good for F5 newtonian reflector

\$15.00 OBO

Call Michael Janes 945-5431



East Valley

Astronomy Club

Membership Form

Please complete the information on the form and return to the address below along with a check to EVAC for \$15.00 annual dues.

Bob Kelley, EVAC Treasurer
9071 E. Sutton
Scottsdale, AZ 85260

Name _____
Address _____
Phone # _____

Please

Print

New Renewal Change of address

Major area(s) of interest:

- General observing
- Lunar observing
- Planetary observing
- Telescope Making
- Astrophotography
- Other _____

It is not necessary, but do you currently own astronomy equipment?

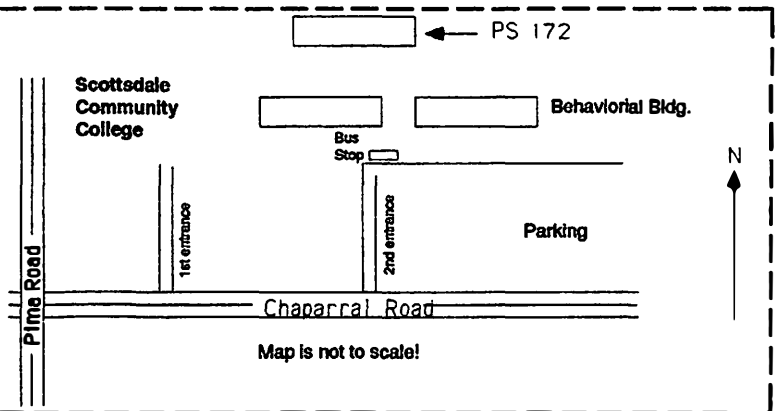
Yes No

If yes, please describe. _____

How did you hear about the East Valley Astronomy Club? _____

CLIP AND SAVE

Monthly business meetings
are on the Wednesday nearest
to the full moon.





EVAC/Bill Smith
 1663 S. Sycamore
 Mesa, AZ 85202



NEPTUNE VOYAGER 2 29 USA

