



Big Christmas Issue!

Skywatch

'Serving Mobile's Amateur Astronomy Community'

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November-December 1997

JUPITER AND SATURN--OUTER PLANET EXTRAVAGANZA!

Jupiter and Saturn: Gas giants put on a tremendous show!!

They rule our nights--the mighty outer planets of the Solar System. I'm sure you know what I mean. If you've been anywhere near a telescope over the last couple of months! Just about everybody who owns a 'scope has undoubtedly spent some time looking at Jupiter and Saturn, and has been witness to the amazing show these immense gas giants have put on during their current apparitions. And let's face it, the late Summer-early Fall weather down here on the Gulf Coast rarely offers the kind of conditions that make a deep sky observer jump for joy! Generally, we



Jupiter, Mighty King of the Solar System. Photo by Rod Mollise. Mysterious Europa's (arrowed) transit across the disk ends as the shadow transit continues.

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have two types of weather at this time of year: endless rumbling thunderstorms clouding the skies, or stationary high pressure domes sitting over the city until the heavens are all but opaque. This latter type of condition is what we've been living with recently, and it is scarcely better for the deep sky enthusiast than the more 'normal' stormy weather. But, it doesn't deter the Solar System observer, and may even aid in observing our next-door-neighbors in space! When these high pressure areas become stationary over the coast,

they do make the air 'stale' and much less transparent than we would wish, but they also bring steady seeing, something cherished by the planetary maven, and something rare in most parts of the country. I did get in a little deep sky work during August and September, but mostly I stayed close to home, straying no farther out than the *paltry 3 billion miles* that marks the boundary of Neptune's orbit. And I wasn't bored by any means--the outer giants provided a spectacle that kept me coming back night after night. And not just to do photography or imaging.



Saturn, the Mysterious and Beautiful Sixth Planet. Image by Rod Mollise with Stargate Observatory's 24" f4 reflector.

Many times I just stood there with my eye glued to the eyepiece and stared at Jupiter and Saturn in awe, drinking in their awesome and almost frightening splendor!

Jupiter, in particular, was a treat this year, as he's continuing his recent trend toward heightened activity; especially in the South Equatorial/Temperate area where a number of interesting white spots abound. I found several of these huge storms trailing the Great Red Spot, while others occupied a similar latitude on the opposite side of Jove's disk. They were very easy to see, and I was even able to record them on videotape. The greatest of Jupiter's gigantic storms, The Great Red Spot, though still very obvious even in small 'scopes, was, in my opinion, lighter in color this year, reversing last year's darkening trend. Although the spot is, once again, lighter than 'normal,' you still shouldn't have much trouble viewing it, even in telescopes 6"--or smaller--in aperture. The usual advice is to look for the 'Red Spot Hollow,'

the indentation around the Red Spot in the South Equatorial Belt, as an aid to spotting the GRS when it is difficult to see at first. In practice, I still I find the Red Spot to almost always be obvious

enough to see right away. If you have trouble making out its salmon-pink form, wait until it's close to the Central Meridian, and you won't be able to miss it. Elsewhere on Jupiter's huge disk, I found the North Equatorial Belt to be of interest, since it was constantly adorned with massive festoons, spots and knots, all of which were *very obvious* in 8" telescopes. Finally, many of Jupe's less conspicuous belts seemed easier to see this time around. At times, it has been my experience that only the two equatorial belts are truly easy to make out in a small telescope. Recently, though, Jupiter's South Temperate and South South Temperate Belts have been very obvious. I've also noted quite a bit of detail in the South and North Polar Regions.

In telescopes 12" in aperture and up, the mighty King of the Planets is a feast for the eye (the detail visible in Pat Rochford's 24" at high power is *really* overwhelming), but ANY



The Moon Occults Saturn. These occultations were one of the highlights of the late '97 planetary viewing season. Image by Rod Mollise.



Jupiter and Two Satellites. Old Jupe, with his ever changing face and dancing retinue of moons provides an interesting target for all observers. *Image by Rod Mollise.*

telescope will reveal countless features on the planet's disk--IF you take the time to become familiar with Jupiter's appearance. Forget the famous (highly enhanced) Voyager photos. The fifth planet is *not* a world of brilliant colors. It is a planet of *soft pastels*, and it takes time to train the eye to be able to pick-out all of Jove's subtleties. But experience will reward the user of even the tiniest telescope with visions of this monster planet that mere photos can never duplicate!

And this feast for the Solar System traveler wasn't over as Jupiter descended into the southwest, because in the east beautiful, eerie-looking Saturn was rising. The most wonderful part of Saturn's 'act' this apparition was undoubtedly his duo with the Moon. Twice, on September the 18th and November the 11th, Saturn was occulted by the Moon. It had been a long time since I was witness to the spectacle of Luna covering the 6th planet, so you can bet

I was ready with telescopes and cameras! What was the most amazing part of seeing Saturn setting and rising over the Moon's limb? The feeling of SCALE that this brought home to me. Looking through the eyepiece or looking at the finished tapes or computer images I made of the occultations, I really gained a true feeling for the three-dimensionality of the universe. There was our Lovely Moon, as close and familiar as my own backyard. In the *background*, was distant Saturn so very far away in the dark depths of the outer Solar System. And beyond it, a solitary star, whose unimaginable distance was made shockingly real to me!

But there was (and still is) much more to see on Saturn than just occultations. The rings are once again open enough to make seeing and recording detail in them much easier than it was last year. Cassini's division is now easy to see visually, and easy to

capture in photos and video or CCD images. In medium sized telescopes, the sometimes elusive crepe ring is obvious. And no, I *still* haven't seen Encke's gap, but I'll keep on trying! The disk is also a treat. While the rings are more open than they were last apparition (naturally, since we went through an amazing series of ring plane crossings last apparition), they are still subdued enough that they don't interfere too much with the low contrast features on Saturn's disk. Some activity in the equatorial regions is obvious, and I found the South Polar Region more defined this time out than it's been in recent years. And of course there is Saturn's amazing retinue of moons, five of which are easy to see in amateur sized telescopes. With high power on 12" and larger 'scopes, Titan becomes more than just a pinprick. Under steady conditions a tiny disk is visible, and the moon's peculiar orange color is very obvious.

Unlike the Solar System observers before Herschel, we don't have to end our journey at Saturn--two more distant wanderers are easily within our reach. This is not to say that Uranus and Neptune offer much in the way of excitement. Detecting any sort of detail on these two far away blue-green worlds in a challenge for Earthly telescopes--even the Hubble Space Telescope. Uranus, in fact, may possess little detail *to* be seen. Even



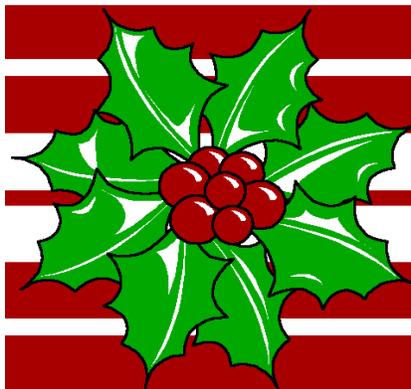


Voyager had a hard time pulling out any features from the monotonous green cloud deck. For amateurs, it has to be enough to simply say "I've been there." Uranus' little disk is bright at magnitude 5.8, so finding it shouldn't pose any problems. Uranus' moons are notoriously difficult to find, but are accessible to larger amateur 'scopes. Neptune, like Uranus, doesn't really seem to have much to display for earth bound instruments. It took the Voyager spacecraft to finally reveal a much more 'interesting' world than Uranus. The spacecraft sent back pictures of some fascinating features like the so-called Great Dark Spot, which at the time was thought to be analogous to Jupiter's Great Red Spot. HST has recently been able to reimage Neptune with a degree of resolution unattainable from Earth in the past. Somewhat surprisingly, the Great Dark Spot seems to be missing, so what we had assumed to be a long-lived storm like Jupiter's Red Spot was apparently just a 'passing squall' after all! Neptune has two 'major' satellites, Big Triton and little Nereid. Curiously, Triton, is much easier to see with amateur sized 'scopes than any of closer Uranus' followers. Nereid is incredibly difficult, and the rest of Neptune's family of eight or more moons are mere chunks of rock impossible to see from Earth.

Neptune is much dimmer than Uranus at magnitude 7.9, but he's really not much of a challenge for observers. At reasonably high power, his ocean-blue disk screams, "TM NOT A STAR!"

With amateur telescopes getting bigger all the time, and CCDs becoming more sophisticated every day, I expect the day will come when amateurs may be able to detect some hint of cloud features on Neptune. Even Uranus may someday give up a few of his secrets to the backyard observer. Voyager results notwithstanding, some sharp-eyed visual observers (e.g. Steve O'Meara) have made convincing claims of spotting some very subtle detail on the planet. Maybe Voyager just happened to fly by during a 'quiet' period.

What? Pack-up the telescope and go out to a 'dark site?' Oh YES, a



dark site...it'd be nice to get away from the light pollution and take a look at (magnitude 13.8) Pluto, the last member (as far as we know) of the Sun's little family. Maybe track down some asteroids too. Deep sky? Oh, yeah, deep sky objects....they're the things you look at when there aren't any planets visible! Seriously, though, if you've given up planetary observing, thinking it's something kids do with tiny little telescopes, you're missing a lot. With man finally moving out into our cosmic neighborhood again, the planets we thought we knew so well

are starting to reveal new wonder after new wonder and new mystery after new mystery. And you, with your beloved telescope, can voyage into man's new home from the cozy darkness of your back yard.

--Rod



Astrobytes

Snappy 3.0
Play Incorporated
 1-800-306-PLAY
 www.play.com
 M.S.R.P. \$139.00

I've been doing video astronomy for about a year now, and I've been having a ball. I never realized how easy it could be to record tremendous amounts of detail on the Moon and planets until I started using a camcorder at the telescope. But there was a problem. With experience, my videotapes were getting better and better. But they were still...tapes! I wanted to find some way of making still images out of the best of my video shots. Like many aspiring video-astrophotographers, I tried photographing images off my monitor screen with a 35mm SLR. My results were ok--at best--but fell far short of capturing the details I knew were hidden in my videos. Oh, I knew about 'frame grabbers,' devices which allow you to attach your Camcorder or VCR

to your computer and 'download' video. Unfortunately, all of these units seemed to be expensive, complicated, and often lacking in the quality I was hoping for. But then I heard about *Snappy*.

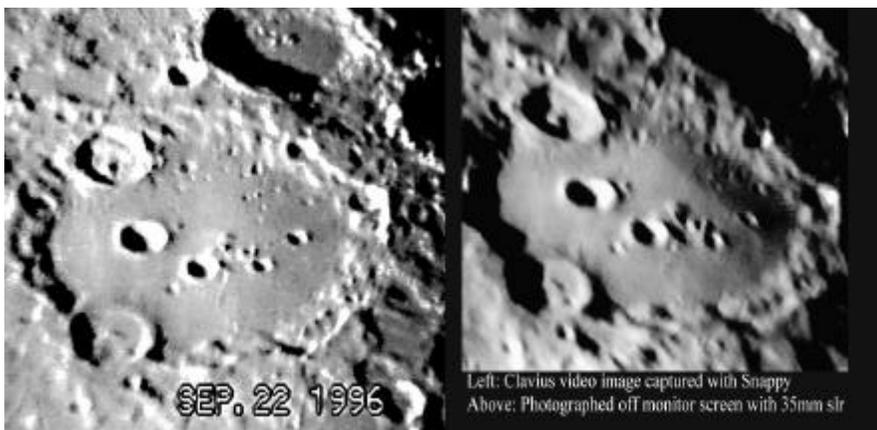
The Snappy™, manufactured by Play Incorporated, is also a 'frame grabber,' and operates similarly to the other devices on the market in that it captures single video frames for display, printing and processing with your PC. But there the similarity ends. Unlike other video capture boards out there, the Snappy is priced at less than \$200.00--*much* lower than its competition. Quality has not been compromised, either, with the Snappy's output being *at least* as good as (if not better than) all but the most expensive and complex video capture devices. One other difference between the Snappy and similar products is the ease of the Snappy's installation. Most frame grabbers require that you install a board in one of your PC's internal slots. Not only does this tie up one of your computers precious expansion slots, it brings with it all the 'conflicts' and other problems that can come with installing boards of this type--problems which can be daunting for even experienced computer users. The Snappy is very different. All you're required to do is



The Great Crater Copernicus. Image shot with a Sony CCD F-34 camcorder through a 12.5" f4.8 Newtonian. Downloaded to a '486 PC with Snappy, and processed with Adobe Photoshop on an Apple Macintosh Power PC.

install the included software, plug the Snappy into your parallel (printer) port, plug your video source into the Snappy and you're ready to go.

I had *heard* a lot of good things about Snappy, and was advised to try one by the Baton Rouge Astronomical Society's pioneering video astrophotographer, Charles Genovese, whose results were quite impressive. I was definitely willing to be convinced about the Snappy's worth, since I'd gone just about as far as I could go photographing off the TV screen. So I took the plunge (picking up a used Snappy made things very painless). After unpacking the Snappy (about the size of a VHS video tape), and browsing through the generally well written manual, I was ready to go. I plugged the little device into the parallel port (this means that you have to unplug your printer, which is a little inconvenient--I'm thinking of eventually getting an a/b switchbox so I can leave both devices plugged in at once). The version 2.0 software that I received included the basic system software used to capture images as well as a couple of image processing packages.



Left: Clavius video image captured with Snappy
Above: Photographed off monitor screen with 35mm slr

Figure 1. Snappy vs. the SLR.

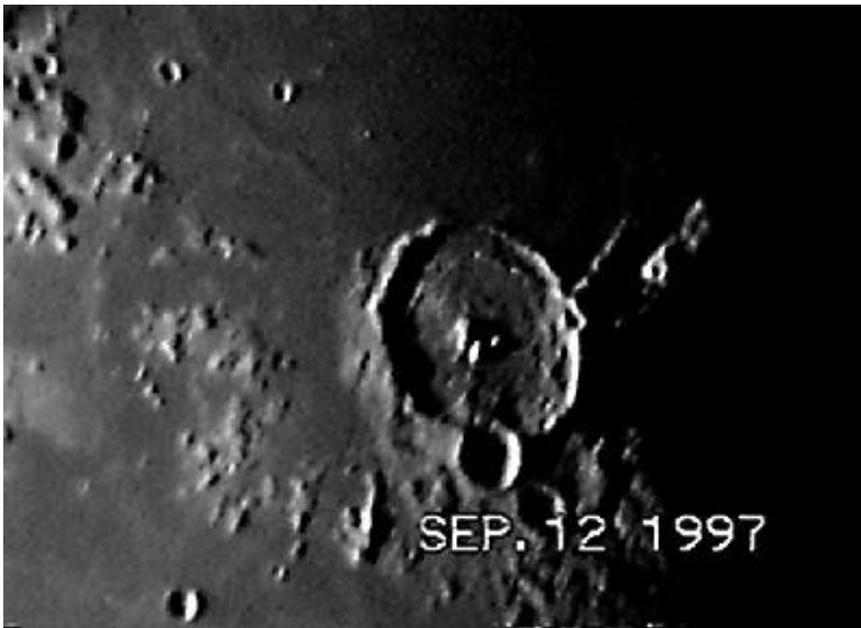
The initial image you get after grabbing a frame is somewhat raw, and, for astronomical images especially, it's very helpful to have some kind of an imaging program to allow you to clean-up and enhance your photo. I set these programs (Fauvè Matisse, and Gryphon Morph) aside, since I intended to use two programs of my own that I was more familiar with, Adobe Photoshop and Paintshop Pro. Software installation went without a hitch, and before long I was able to start the basic 'Snappy' program, which does the image capture. Once this program is running, the first step is to go to the 'setup' section and set the defaults for the kind of imaging you're going to be doing. Snappy allows you to choose either 'moving image' or still

Snappy set up and ready, I plugged my camcorder into the 'video-in' jack (a standard 'RCA style' connector), and brought-up the program's 'preview' mode. Once in preview mode, you're presented with an onscreen image of a small (about 2" across) video screen. When you start your video source playing, your preview video is displayed here, in black and white, with frames updating every second or two (reminded me of old 'slow scan' TV). While the images on this tiny 'monitor' are black and white, but they are sharp and clear, and make it easy to choose the frame you want to 'snap.' If this doesn't seem sufficient for identifying the correct frames for download, the Snappy has a 'video out' jack which allows you to use a full

contrast, brightness, etc.). I chose to save my image as a .jpg file (Snappy allow you to save your image in a large number of different formats), since I planned to process my images with Adobe Photoshop (a wonderful 'darkroom on a disk' I'll be reviewing in a future column). Snappy is also 'Twain' compliant, which means that Snappy can be used from within programs like Photoshop or Paintshop Pro. In these, or other 'Twain aware' programs, clicking on a scanner icon or choosing 'scan' from a menu brings up Snappy's software. Once the frame has been captured, control is returned to the image processing program, with your new still on screen and ready for you to work on.

It would probably have made sense to start with a nice, sharp, clear 'terrestrial' video tape, but I just couldn't wait to see what Snappy would do with some Lunar images. For my first 'snap' I chose a sequence of the great crater Clavius. The video of this Lunar feature was sharp, bright, and had yielded about the best still I had been able to produce by photographing the TV screen. To say that I was surprised at the quality of my first 'snaps' would be an understatement. It was *worlds better* than my best 'photograph off the screen' had been (see figure 1). Even more amazing, perhaps, is the fact that the image on the right is the product of at *least* three hours in the darkroom. The *much* clearer Snappy image was captured, processed with Photoshop, and printed in less than half an hour!

As the weeks have gone by, I've become more adept at processing images captured with my Snappy, and have found what works best with this little wonder. Generally, terrestrial images are no problem. Images of stationary subjects seem sharpest, but the Snappy is able to deal handily with



Lunar Crater Gassendi. By using Snappy, video images can often approach and more often exceed the quality of 'conventional photography.'

image (more on Snappy's still image mode later). You are also allowed to select the resolution of the final image, with the choices ranging up to 1500 x 1125. I chose the 640 x 480 'medium' resolution setting to start with. With

size NTSC monitor for previewing.

Once Your frame has been captured, you are given the options of saving it or using some of the Snappy program's fairly limited processing tools on your picture (gamma correct,

'moving targets.' Astronomical images also don't present much of a problem. The only modification I've made in my taping procedure is to hold the magnification down a bit when I know I'm going to want a still of a subject. Keeping the video a little brighter than normal ensures a nice noise-free still from Snappy, making image processing relatively easy. One thing I found difficult at first was choosing exactly the right frame to capture. It seemed as if I were always grabbing the frame right before or after the one I wanted. But I found that by turning on the VCR's or camera's counter, or by having the camera's onscreen clock on during filming, I had a 'reference' to help me snap at just the right moment. Most of the time the onscreen clock or counter can be removed fairly easily during processing if it is objectionable. With this reference, I can now just about always 'snap' the correct frame--within a second or so anyway.

But, what good is the Snappy if you're not really interested in video astrophotography? Well, the Snappy makes your video camera into an all around great picture taker. Stills I've taken of well-lit terrestrial subjects are at least as good as those delivered by the new crop of still 'electronic cameras.' With Snappy, you're only limited by the quality of your camcorder. And one 2 hour video tape will hold many, many 'snapshots.' These 'photos' can be e-mailed, posted on the world wide web, or used in newsletters or other documents. And the Snappy has a few other tricks in its repertoire, too. It can, for example, be used as a very high quality 'scanner.' You focus your camcorder on a still photograph, and allow Snappy to 'think' for a while. The Snappy scans the photo several times which results in an image basically indistinguishable from one produced by

a high quality flatbed scanner. Naturally, you'll have to figure out a way to mount the photo, and providing adequate lighting is important, but none of this is too daunting. I've used the Snappy to get a number of my conventional astrophotos 'into the computer' with excellent results. With a lightbox, it would even be possible to scan your negatives directly into the PC, since the Snappy setup allows you to select negative images for capture. Likewise, the manual mentions that a lightbox would allow you to scan positive transparencies. Either of these activities would probably require a camera with a macro zoom or at least a long zoom lens (most modern cameras have one



or the other if not both).

I was lucky to be able to buy my Snappy used (from the Birmingham Astronomical Society's Mark Lancaster) and save myself quite a few dollars off

the very reasonable just-under-\$200.00 price Snappy has been selling at for a while. But, amazingly, Play has recently announced that they are lowering the price of Snappy to

\$139.00 while improving the included software. The 'Fauvé Matisse' image processing program (which turned out, in my opinion, to be not so hot when I got around to trying it) has been replaced by Adobe PhotoDeluxe, Adobe Photoshop's 'little brother.' If, like me, you already have and don't need image processing software, Play is going to offer a bare-bones Snappy with just the basic system software for \$99.00! And I also understand that this new (version 3.0) system software allows Snappy to capture motion sequences (great for web pages), something it couldn't do before. This means that the Snappy should now be basically the same as the 'Python,' the new 'super-Snappy' being sold by a competitor (for around \$300.00), which you may have heard about!

To sum up, I'm very happy with my Snappy! It couldn't be simpler or more fool proof in installation or operation. Operation on my antique '486 processor has been fast and flawless, and its finished products are on a par with the quality of the most expensive 'pro' video gear. In witness to this fact, Snappy is in use by a number of major corporations, publishers, and television networks. If you've been looking for a way to get video, any type of video, but especially astronomical video, into your computer, and wouldn't mind having a very usable scanner for your astrophotos and slides in the bargain, I think Play's Snappy will please you to no end!

--Rod

Across the Universe of Books



The 1998 Astronomy and Space Weekly Calendar

Starry Messenger Press

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(607)277-0018 (fax)

steve@StarryMessenger.com

\$13.95, with substantial discounts for quantity orders

Can lightning strike twice in the same place? Does history repeat itself? Do the swallows *really* return to Capistrano every year? Can the Starry Messenger Press top the beautiful astronomy desk calendar they published last year? I don't know about the answers to the first three questions, but the last one elicits an enthusiastic "YES!" from me! 1997's *Astronomy and Space Weekly Calendar* was quite a surprise, since nobody expected the folks who put out the highly useful, but admittedly plain-looking *Starry Messenger* to publish a beautiful glossy desk calendar just chock-full of outstanding photos! This year, though, I was prepared to be a little more critical. But when the review copy of the calendar arrived, my skepticism evaporated; it was, if anything, even better than the last one!

Now, it wouldn't be easy to improve on the photos, in either quality of printing or selection, from the 1997 issue, but I think what's included for 1998 is every bit as good. One of the first things I did was check this

year's calendar for duplicate photos, something common in calendars of this type from year to year. I didn't notice a one. If I *did* notice a difference in 1998's pictures, it was in *emphasis*. I haven't sat down and tallied up the number of pictures from each category, but it is my *subjective* impression that there are more 'space' photos and fewer 'astronomy' images in the *1998 Astronomy and Space Calendar* when compared to the 1997 issue. Which is not to say that the 'space' pictures are boring or unphotogenic. Contained here are some of the *most beautiful* photographs ever turned out by NASA. I was particularly impressed that the publisher was able to include a photo from the recent (and ongoing) Mars Pathfinder mission. The astronomy images this time out include beautiful shots by Tony and Daphne Hallas and David Malin as well as fascinating HST images. Do I have any criticisms about the picture selection? Only one small one: I think we could make do with fewer pictures of the Shuttle. How about dipping into the NASA archives? There's a wealth of material from the 50s and 60s that deserves to see the light of day again.

The basic daily layout of the calendar remains unchanged. Each day lists the phase of the moon, historic astronomy/space events, and interesting sights in the sky--meteor showers, conjunctions, etc. (and Earthly holidays, of course). There is also ample space for you to write-in daily activities--at least if you, like me, are an engineer (meeting, think about technical stuff, talk on phone, one last meeting). A salesperson or business management type might need more space than is offered here. But this calendar is not meant to take the place of a 'day runner' for people who need such things, and I really don't see how

its format could be improved.

So the pictures in this year's calendar are just as good as those in last year's, and the nice daily layout is unchanged. What makes the *1998 Astronomy and Space Calendar* better than last year's example? Just about everything else. This edition includes an expanded address section. One of my few dislikes about last year's calendar was the fact that it only had three pages for addresses in the back. This section has grown by a couple of pages this time, and is now sufficient to hold all my address data (I'll now use this calendar as my primary planner and address book at work). A completely new addition is a section in the front, '1998: The Year in Space.' This includes a launch schedule for '98, a monthly 'what's up in the sky' summary, and a space exploration 'preview' for the coming twelve months.

This is the season when all the book stores are crowded with desk calendars. Big displays scream for your attention. *But resist them.* This year, instead of winding up with a crappy 'cartoons you've seen before' or 'boring facts day by day' desk calendar/planner, invest in the *Astronomy and Space 1889 Weekly Calendar*, and, as the ads say, 'spend a year in space.' I guarantee you'll find it useful, beautiful, and perhaps even *inspiring*. Another plus for the calendar is the fact that Steve Cariddi and the good folk at Starry Messenger Press have made buying a copy for yourself or for gift-giving very affordable. The price for a single issue is \$13.95, very much in line with what you'll pay for any other desk calendar at the mall. But, SMP is also offering an **astronomy club discount**, a hefty 40% off for orders of 10 or more copies. There are also some discounts for smaller multiple orders. For further

information, see me. I'll be showing off my copy of this beautiful work at the next club meeting.

--Rod



COSMIC CAROUSEL

With an number of important star parties coming up over the next few months, I thought I'd offer this 'star party equipment' checklist. I'm sure you can add some vital items to this inventory, but this basic equipment list has worked well for me!

- TELESCOPE OTAs (Surprisingly, according to amateur astronomy urban legend anyway, a few hapless souls have been known to show up for big star parties without their scopes!)
- TRIPOD AND WEDGE (That fancy SCT OTA isn't too much use without the wedge and tripod.)
- EYEPIECES (People have been known to leave their eyepieces at home. It's never happened to me, but I've seen it. Solution? Maybe put one eyepiece--an el cheapo Meade MA, perhaps--in the case with the scope--or maybe duct tape one to the Dob's rocker box.)
- ACCESSORY (TOOL) BOX (Maintain a good set of tools for star party use. If you don't you'll surely find out that all you need is one little allen wrench--which you don't have--to make things right!)
- DEW SHIELD (A MUST for SCT owners in our part of the country!)
- DEW REMOVER (Hair dryer or Kendrick system. Down here in these parts you'll need something more than a dew shield if you're gonna observe all night, pardner!)
- BATTERY (For the scope drive and/or dew removers.)
- CHARGER (That battery's gonna be deader than a door nail after a night or two!)
- STAR CHARTS (Won't see a dangd thing if you can't find your way!)
- FLASHLIGHTS--LED AND REGULAR (A selection of flashlights, all with red filters or red leds is vital. Dimmer for chart reading, brighter for finding your way.)
- WALKMAN & TAPES (A little Walkman and tapes can make those long stretches at the guiding eyepiece at 3am more pleasurable for astrophotographers.)
- PLANISPHERE (A must-have for scheduling your observing time.)
- BINOCULARS (Always a Good Thing to have along.)
- BED LINEN AND PILLOWS/SLEEPING BAGS (Depending on the accommodations. Towels, wash cloths, soap in container, shampoo, toothpaste, mouthwash, etc.)
- ICE CHEST AND ICE (If you're not from around these parts, you won't believe how hot it gets--even in October. And Spring down here--or out in west Texas--can be like a furnace. Lotsa ice and cold water/beverages makes a big difference.)
- PAPER CUPS & TOWELS (Paper towels--and plenty of 'em--are a necessity.)
- TOILET PAPER (natch...some campsites don't have ANY or it's of

the GI brand!)

- EXTRA EYEGLASSES (If you wear 'em, you'll undoubtedly find yourself wishing you had your extra pair along.)
- CAMERA & FILM (And not just for astrophotographers...you want to document your trip, don't you?)
- INSECT REPELLANT (Deep Woods Off or some other DEET-based repellent is VITAL in the south.)
- SNACKS (Toasties, corn chips, candy, etc. Yeah, YEAH! Lotsa snax! And not just 'cause I like this junk, but because the energy supplied by this stuff can keep you going when the weariness really sets in.)
- SOFT DRINKS (With the emphasis on SOFT, since anything with alcohol in it will wreck your night vision.)
- BOTTLED WATER (AT LEAST 2 GALLONS--If you don't know what the quality or availability of local drinking water is, be prepared. A large part of late night fatigue can be attributed to dehydration, so drink plenty!)
- TENT or TENT CANOPY (Even if you're sleeping in a cabin, bring a 'picnic canopy'--if these are

allowed on the observing field. Keeping the Sun off will make things much nicer!)

- STAKES AND ROPES (Tents aren't much use without these!)
- SWEATSHIRTS, JACKETS, AND COATS (Even in the Summer, you'll get cold in the wee hours, standing stationary out in the middle of a field!)
- EXTENSION CORD (Like many other items, if you don't have one you'll for sure want one.)
- 3 PRONG ADAPTER (See above. Bring this along or be prepared to hack off the third prong on your cords with a pair of dykes. If you don't have an adapter, you can just about be sure the electrical outlets will be two prongers!)
- UMBRELLA (You won't need this--you hope!)
- GARBAGE BAGS (Multi purpose and indispensable!)
- LAWN CHAIRS (Make things easy on yourself!)
- CARD TABLE (A must have for your charts, etc.)

And that's it. Using this checklist will ensure that you at least have the MINIMUM items needed to make your star party experience a pleasant one! I usually position this list on the

hall table and check-off each item AFTER it's placed in the car....

--Rod



This perplexed looking little Santa appeared in a long-ago Unitron ad! Why is he so perplexed? MAYBE he's trying to figure out how Unitron was able to sell 60mm refractors for a week's wages back in '65!



My Back Pages

Stories in the Sky

Jupiter, King of Heaven

Before the seas, and this terrestrial ball,
 And Heav'n's high canopy, that covers all,
 One was the face of Nature; if a face:
 Rather a rude and indigested mass:
 A lifeless lump, unfashion'd, and unfram'd,
 Of jarring seeds; and justly Chaos nam'd.
 No sun was lighted up, the world to view;
 No moon did yet her blunted horns renew:
 Nor yet was Earth suspended in the sky,
 Nor pois'd, did on her own foundations lye:
 Nor seas about the shores their arms had thrown;
 But earth, and air, and water, were in one.

Ovid,
 The Metamorphoses
 Book I

I've stayed with constellation figures in past installments of Stories in the Sky, but our planets, of course, have their tales as well, since they are named after some of the most important Gods (and Titans) in classical mythology. In celebration of the recent Jupiter/Saturn apparition, I thought I'd recount the story of Creation and the struggle between two awesome figures, Saturn, ruler of the Titans, and Jupiter, the young King of the Gods....

Once upon a time there was....nothing. In the beginning, and for countless ages, there wasn't space, there wasn't darkness, there wasn't really even 'nothing.' All was unimaginable and alien *Chaos*. Then, in some unknown and marvelous way (the story tellers are silent about this), Erebus and Night came into being. These two soon became lovers, and Night gave birth to Love. From Love and her brother, Ether, the Heavenly Brilliance, came Light and Day. Light and Day produced Mother Gaia, the Earth. Miraculously, Gaia, without a mate, gave birth to Uranus, The Heavens, who immediately became her husband.

Gaia and Uranus--Earth and Heaven--were a fertile couple, and produced numerous offspring. First were the Hecatoncheres, MONSTERS with multiple heads and limbs. Then Mother Earth gave birth to the more 'human' seeming Titans; twelve of these beings of immense size and power were born to her. But Uranus

wasn't exactly what you'd call a 'loving father.' He so hated the appearance of the Hecatoncheres, that he forced them back into Gaia's womb--into the hidden places in the Earth--'Tartarus.' Having her children (and herself!) treated this way naturally made Earth hate her lover, Heaven. She began thinking of a way to end Uranus' rule. Gaia tried to enlist her other children, the Titans, in this plot to overthrow Heaven, but they were all too afraid of Uranus to conspire against him--with the exception of **Saturn** (Cronus/Time), the youngest of Earth's kids.

Saturn waited until Gaia and Uranus had retired for the evening, and, stealing into their bedroom (wherever that might be), he took a gigantic stone sickle previously fashioned by Gaia and....castrated Uranus! Uranus, in quite a bit of pain as you can imagine, fled. But before leaving he prophesied to Saturn that one of *his* children would also overthrow *him*. What happened to Uranus is not clear. Some say he left this universe. Other story tellers simply say that he retired to Italy (!). Whatever took place, he was out of the picture, and Saturn wasted no time in declaring himself 'Ruler of All.' Following the old family tradition of incest, he set up housekeeping with his sister, Rhea, and they began to bring forth many offspring--more Titans. And there things remained for uncounted and uncountable ages of time.

But, like his father, Saturn was not what you'd call a nice guy. Oh, he was a pretty good provider, owning the entire universe as he did. But he had a nasty habit. Taking Uranus' prophecy to heart, he swallowed each of his children as it was born, thereby ensuring that none of them would be around to overthrow *him*. Unfortunately, Saturn learned nothing from Uranus' fate, and apparently was unaware that eating the children was not something that would endear him to his sister/wife, Rhea. Like Gaia, Rhea began thinking that it was time to do something about/to hubby. Then she hit on an idea.

When her next child, Jupiter, was born, Rhea didn't dutifully hand him over to Saturn as she'd done with the other young. Instead, she gave the old man a large stone wrapped in swaddling clothes, which he promptly swallowed, not noticing the difference! Rhea then hid young Jupe on Earth, entrusting him to the care of the wondrous goat, Amalthea (human beings had not been created at this time).

Thus, young Jupiter grew to manhood (Godhood?) Unnoticed and unmolested. In the intervening years, Rhea broke the news to Saturn that one of his children was alive, and she was apparently able to convince Saturn that young Jove was no threat to him, and that he should be allowed to join his parents on Olympus. Stupidly forgetting Uranus' warning, Saturn installed

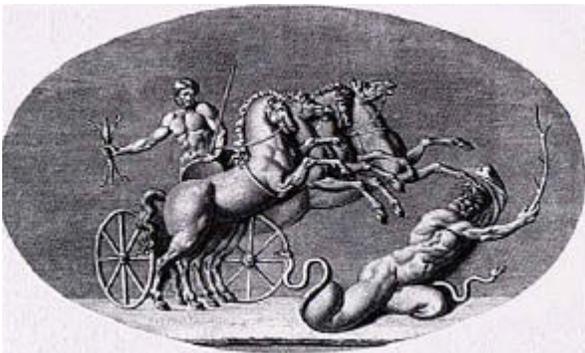
Jupiter on Olympus as his Cupbearer. It was then a simple matter for Jupiter to slip a poisoned draught to the old man, a special drink which made him vomit up his other children (unharmful after years in Saturn's stomach!).

Battle was immediately joined between Jupiter and his brothers and sisters, the young Gods, and Saturn and his brothers and sisters, the Titans. The Gods certainly didn't have an easy time of it! The Titans, led by mighty Atlas, were *unbelievably* powerful. But Jupiter had a plan. He trotted down to Tartarus and freed the Hecatoncheries and some other monstrous children of Uranus and Gaia, the famous one-eyed Cyclopes. Seeing this, some of the Titans decided it was time to switch sides. The Titan Prometheus, in particular, was a big help in the battle. Waiting until just the right moment, the Gods ambushed Saturn and his Titans. Jove, wielding some thunderbolts that he'd been given by the Cyclopes, led the attack and soon routed the enemy!

Then it was time for the victors to punish the vanquished. Saturn was nowhere to be found, having decamped for Italy, where, like Uranus, he spent his retirement. It is said, though, that living in Italy did wonders for Saturn's disposition, making him so cheery and helpful that the Romans eventually began to call their grand festival the 'Saturnalia.' The rest of his army wasn't able to retire to a nice villa on the Med, however. The majority of the Titans, Jupiter exiled to Tartarus. But he had a special fate in mind for their field marshal, Atlas. Poor Atlas was condemned to support the world on his shoulders until the end of time.

I suppose there was some question at this point who the next ruler of the universe was going to be. Prometheus, some say, *really* wanted this job. But that was not to be. Gaia, seeing her children, the Titans, imprisoned in Tartarus, became very angry. In some strange manner, this made her give birth to one last child, Typhoon. She immediately told Typhoon to, 'Go help your poor brothers and sisters.'

Typhoon was the most fearsome monster ever to live, and one look was enough to make all of the victorious Gods and Titans flee in abject terror. All except Jupiter. Jupiter stood his ground, fighting Typhoon to a standstill,



and finally dispatching the terror with his famous thunderbolts! When the smoke cleared, it was obvious that Jupiter was now the King of the Gods, Ruler of All, Most High, etc., etc.

What kind of a ruler was Jupiter? Well, he *could* be just...but perhaps CAPRICIOUS is a better description. One thing is sure, if you were a human, the best advice--especially if you were a young and beautiful maiden human--was to steer well clear of Jove! Drawing his attention usually did you no good, and in the end generally caused SERIOUS harm! But the story of Jupiter's reign is a tale for another time.

Oh yeah...'**They Lived Happily Ever After**' (the Olympian Gods if not the Titans or we poor Human Beings!)....

By the way, I'm sure you know this, but our kindly old **Father Time** figure is *really* holding that **SATURN!** And he's still **SICKLE**, too!

--Rod



Club Notes

The September 1997 meeting of the Mobile Astronomical Society was held on 3 September 1997 at the Environmental Studies Center. In the absence of Pat Rochford, the meeting was conducted by Rod Mollise. Rod had just received an info package from Barry Simon outlining some changes in the offing for this year's Deep South Regional Star Gaze (one day longer this year, some price increases, SERAL convention to be held in conjunction with the star party). Rod shared this information with the membership. Finally, arrangements were made with the ESC's Dianne Martin to allow Rod weekend access to the ESC so he could finish painting the observatory.

The October 1997 monthly meeting of the Mobile Astronomical Society was held at 7pm on Wednesday October 1st at the club's usual meeting place, the Mobile Public Schools' Environmental Studies Center on Girby Road. Much of the meeting was devoted to finalizing plans for the club's annual trip to the Deep South Regional Star Gaze/Southeast Region Astronomical League Convention in



McComb, Mississippi. Also discussed were plans for the upcoming (4 October) dark site star gaze in Millry, Alabama (for more information, contact star gaze chairperson, Sherri Martin). Dianne Martin presented a nice program/activity on Jupiter's Moons. This was followed by the showing of a videotape made by Pat Rochford and Rod Mollise of Jupiter and Saturn (and an anomalous object they observed). Judy Anderson kindly donated a Barlow lens for use with the club's SCT. Thanks, Judy! After the meeting wrapped up, the membership adjourned to the ESC parking lot to observe Jupiter, Saturn, and some of the brighter Messiers with Pat Rochford's wonderful 8" f7 Newtonian!

Editor's Musings--Once Upon a Midnight Dreary...

Just in case you haven't heard, MAS member Tony Kramer suffered a heart attack in September. Wife (and MAS member) Ginny Kramer reports that Tony is doing fine, and that he plans on attending this year's Deep South Regional Star Gaze.

By the time most of you read this, the 1997 Deep South Regional Star Gaze will be history. Look for a complete report in the January-February issue of *Skywatch*.

Pat Rochford and myself have completed a few repairs to the MAS' Pine Lake Observatory on the grounds of the Environmental Studies Center. These repairs consisted of painting and minor carpentry work. Since its completion in 1988, Pine Lake Observatory has opened up the heavens to thousands of visitors young and old during many public stargazes.

Speaking of public star parties, Dianne Martin has scheduled the ESC Fall Public Star Gaze for November 5. The star party will be held in place of the MAS' regular meeting. While the star party will officially get underway at 7pm, you may want to

arrive a half hour to an hour early to get set up before the crowd arrives! Please come out and support this important event (and bring your scope!); No 'Rain Date' is scheduled. Dianne could also use some MAS help with the ESC Open House, which is to be held on Saturday, 1 November. If you're not going to DSRSG this year, give Dianne a call and let her know you'll help out.

We haven't made definite plans yet, but I'm assuming that the MAS will hold its annual dinner in place of the January meeting. If things hold to the format we've set in recent years, the dinner will be held at 7pm on January 7 at the Shoney's restaurant in Tillman's Corner (Highway 90, just before the I-10 overpass). As in recent years, this will no doubt be a pay-as-you-go affair, with the MAS arranging Shoney's 'back-room' for the dinner/meeting. Please join us for this traditional event, we've ALWAYS had a wonderful time at these little gatherings. For further details, attend the December meeting or check with one of your fellow members as the date approaches!

--Rod

Ah the holiday season! Time for mistletoe and trees and presents and --CLUNK--OW!! 'Huh huh huh huh, here's your mayonnaise jar mister!' 'Hmm...heh, heh, heh heh--that was cool, Butthead!' Oh, well...might as well take a look. Yep, mayo jar, alright. Hermetically sealed, too. Must be the latest installment of....

RUMOURS

Is the Telescope and Binocular Center (a.k.a. Orion) aiming at becoming the number three telescope 'maker' in the country (alongside Meade and Celestron)? While The Telescope and Binocular Center doesn't seem to be actually 'making' anything, they're expanding their line of 'Orion' telescopes tremendously. The latest additions are a pair of Vixen reflectors (an 8" f4 and an 8" f9 Cassegrain). The 8"f4 was well received when Celestron used to import it, and the f9 certainly looks interesting. This is in addition to 90 and 102mm refractors, also by Vixen, and also bearing the Orion

name. Does Telescope and Binocular Center's desire to position itself as a major player have anything to do with the name change (from 'Orion')? Whatever Telescope and Binocular Center's aims are, it's nice to see someone bringing in a wider selection of Japanese telescope maker Vixen's equipment. Celestron has imported a number of Vixen mounts and telescopes over the years, but always in spotty fashion, and often for limited amounts of time (e.g. the 8" f4 Orion's selling now).

Did you follow the sad story of New York's Hayden Planetarium? If you haven't heard, it's my sad duty to inform you that the wonderful old Hayden Planetarium has been torn down (it was finally demolished in March). It is being replaced by a more modern facility, which, if recent trends in the planetarium biz are any guide, will focus less on astronomy and more on perceived money makers like laser light shows and special effects and 'earth science' (whatever the heck that is). A group spearheaded by NY architect Claudio Veliz attempted to prevent the destruction of the old Hayden by using a number of strategies (did you see Claudio's article on this story in a recent issue of *Astronomy Magazine*?). But it was all for naught, and the wrecking ball did indeed level the old facility. But Anonymous thanks to Claudio and quite a few others for fighting the good fight! As for the direction the 'new Hayden' will take, their commitment to astronomy can be summed up in this quote from an e-mail Claudio sent me "...incidentally, only one member of the planning and design team had any background, or interest, in astronomy, and he was largely considered a token insert. The rest had backgrounds in law, commercial investment and city politics. The outcome was fairly predictable..."

Well, well...most unsurprisingly the TSP is going back to Prude Ranch! I don't have any details right now, but it has been announced that the 1998 Texas Star Party will again be held at the Prude Ranch in west Texas. Apparently the hard feelings between TSP organizers and Prude have been smoothed over. The poor conditions weatherwise at Leakey, Texas this past year made the 1997 edition of the TSP a not so good experience for some (not including the anonymous one, who had a GREAT time), so I'm sure there will be quite a bit of rejoicing over this news. What is being forgotten, though, is that the weather at Prude this year was every bit as bad as it was at Alto Frio. But the TSP couldn't return to Alto Frio anyway due to the camp being already booked, so I guess the return to Prude was inevitable and is maybe a Good Thing. I don't want to be a bringer of bad luck...but has anybody got any idea what effect the much-heralded *el nino* will have on west Texas? Sigh. Let's hope for the best.

For once, *Sky and Telescope* has SCOOPED your anonymous correspondent. Until my attention was

directed to a small newsnote in the October *Sky and Scope*, I didn't realize that Telrad inventor Steve Kufeld had passed away. Like many great ideas, Steve's Telrad seems simple once you're shown it...but it took a flash of genius to conceive of it in the first place! I have no doubt that the Telrad has helped more folks track down deep sky objects than every fancy computerized scope and set of digital setting circles in the world! Steve Kufeld, who your anonymous friend never had the opportunity to meet in person, came across in telephone conversations as truly one of the good guys in the astro biz. He will be missed.

--The Anonymous Astronomer

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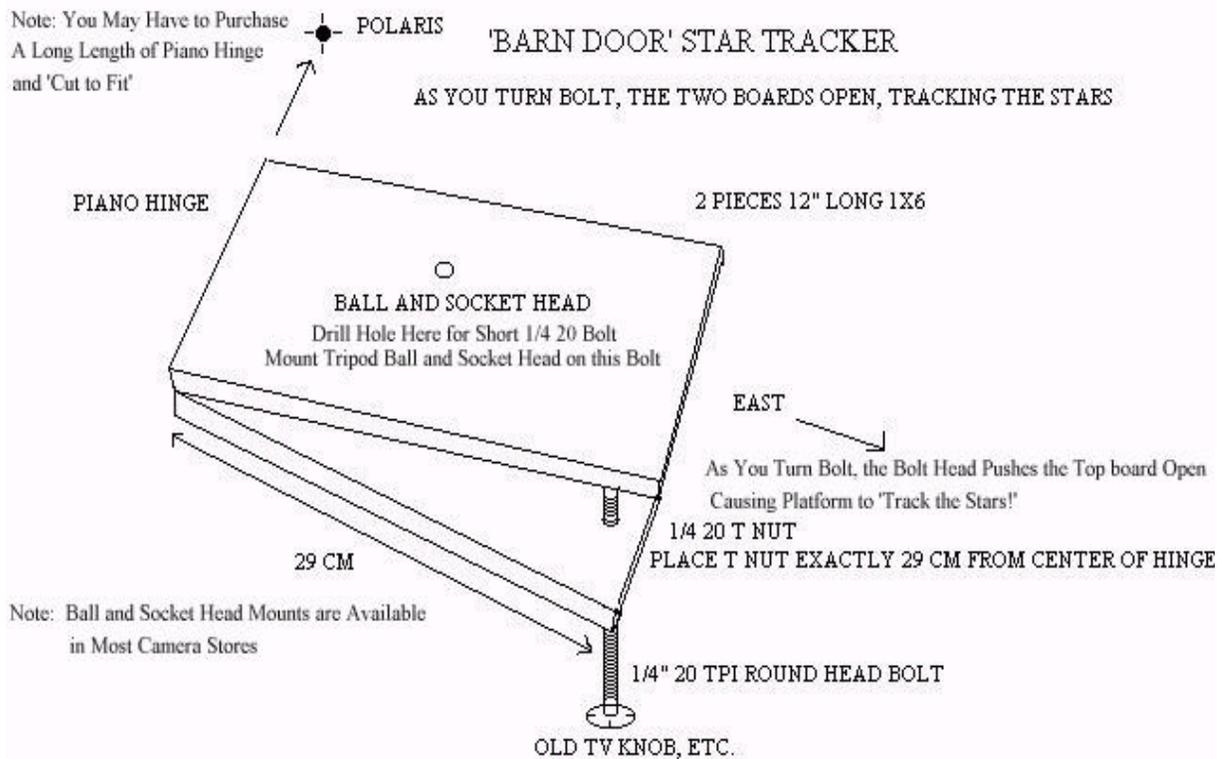
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A very Merry Christmas to all of our wonderful astronomy friends! Some of you we only see once a year or so at the big star parties (in the case of those across the 'big pond,' maybe every few years), but we want you to know that you're all in our thoughts as we enter 'this most glorious time of the year!'

*Peace,
Rod & Dorothy*



A Cheap and Simple Camera Platform (Barn-door Tracker)



PLACE ANOTHER 1/4 20tpi T NUT IN CENTER OF BOTTOM BOARD TO MOUNT TRACKER TO TRIPOD
IF ACCURATELY ALIGNED ON POLARIS, MOUNT WILL TRACK WELL FOR AT LEAST 10-15 MINUTES
TO ALIGN SIGHT ALONG HINGE PIN AT POLARIS
Turn Screw 1/4 Turn CCW Every 15 Seconds with 50mm Lens
START OUT WITH 2-5 MINUTE EXPOSURES



HALE-BOPP March 1997, Pat Rochford. Two minute exposure with one of these little home-built platforms.