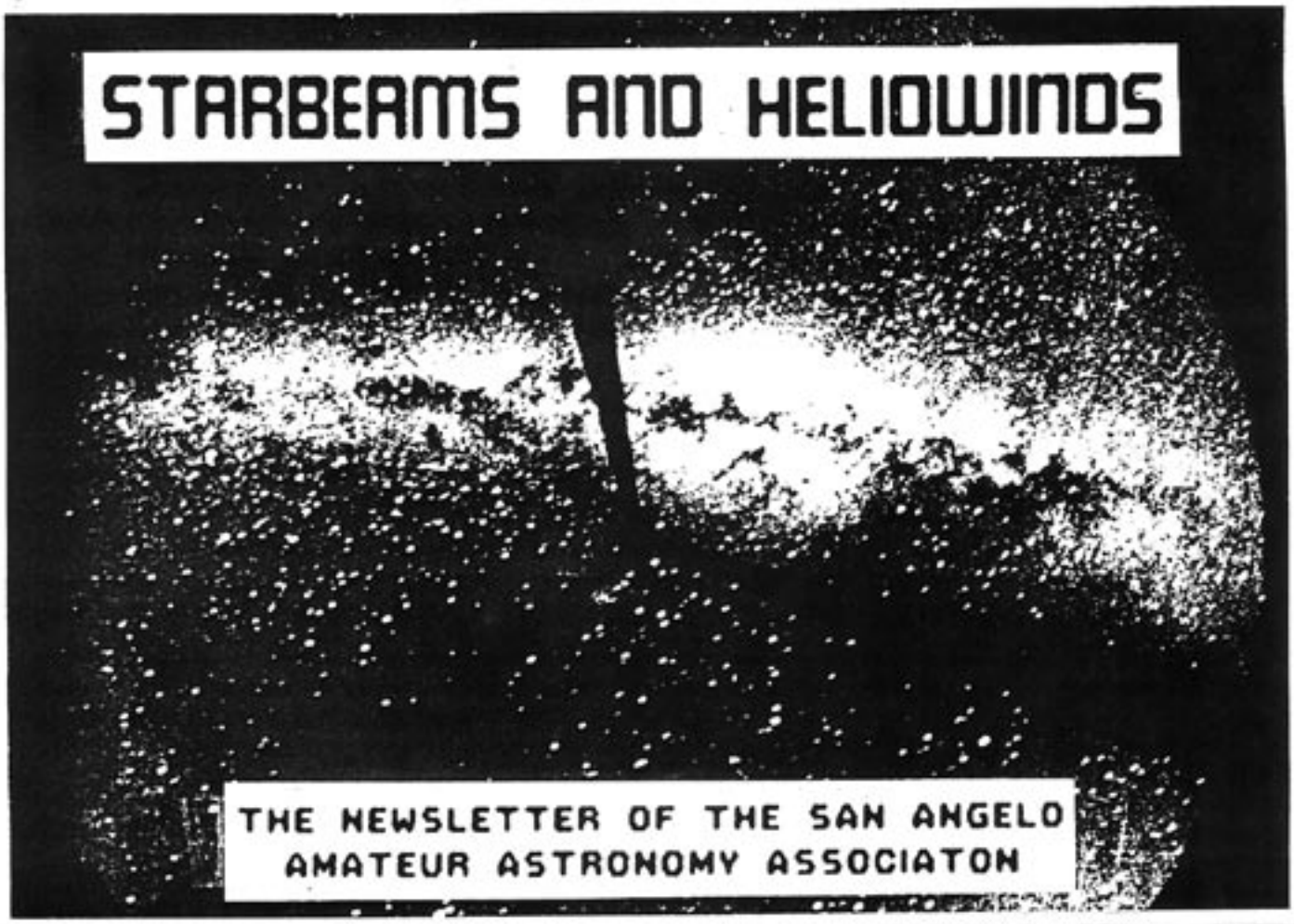


JULY 1990

NEWS ITEMS

THE TROULBLE WITH HUBBLE is that it can't focus very well. By now all amatuer astronomers are familiar with the H S T's woes. One and onehalf billion dollars worth of telescope and it won't focus. Whether Hubble is near sighted, far sighted, or blind, the reaction of many astronomers is shock that the telescope is suffereing from this affliction. The problem is speculated to be an incorrectly figured primary or secondary mirror. NASA hopes to salvage the project with some clever image processing until 1993 when it can go up and attempt some repairs. A NASA spokesman promissed that the prosessed images would still impress and amaze us.

A SECOND PRIYATELY OWNED 12 1/2" telescope has been offered to the observatory project, provided we can pull the deal off. The provision is that we provide the family treasure with a quality home and it may be donated. Stay tuned.

A INCREASE IN THE AMOUNT OF ANNUAL DUES will be motioned and discussed at the next meeting on August 7th. See page two.

REFINEMENTS OF OBSERVATORY REQUIREMENTS AND SPECIFICATIONS were discussed at an open committee meeting on Monday, July 9th. The refinements will be incorperated in the formal proposal that is being drafted on the project.

CALENDER OF EVENTS

JULY/AUG EVENTS :
AUG MEETING - AUG 7, 7:00 p.m. at the ASU planetarium - Visitors welcome.
STAR PARTY - Fri, JULY 20TH at the Grandview site (see map on back)
PLANETARIUM PROGRAM - VOYAGER ENCOUNTERS Thursdays - 8:00 pm, Saturdays - 2:00 p.m.

EDITORIAL INFORMATION
STARBEAMS AND HELIOWINDS is the monthly newsletter of the San Angelo Amateur Astronomy Association. Publication date is the 15th of each month. Deadline for submission of articles is the 5th of each month. All articles should be submitted in typed format if at all possible. Address all correspondence to: STARBEAMS AND HELIOWINDS, EDITOR, 3809 Rockbrook, San Angelo, Texas, 76904.

THE SAN ANGELO AMATEUR ASTRONOMY ASSOCIATION

Founded in January 1962. Membership in the association is open to anyone. For membership information contact any of the following officers or visit our monthly meeting at the ASU Planetarium.
PRESIDENT - Dr. Mark Sonntag 942-2136 (ASU Planitarium)
VICE-PRESIDENT - Bruce Mc Kowan 653-6234
SEC/TREASURER - Joe Lynch 944 - 2113
NEWSLETTER EDITOR - Rob Specht 942-1256

MEETING SCHEDULE:- 1990

AUG 7TH, SEP 4TH
OCT 2ND, NOV 6TH, DEC 4TH
Meetings are conducted at the Angelo State University Planetarium located in the Physical Science Building. Meetings begin at 7:00 pm.
No food, drink, or tobacco in the planetarium. please.

STAR PARTY INFO.

The July star party will be held on Friday, July 20th at the Grandview site at lake O.C.Fisher. A map for finding the location is located on the back page.

DUES, DUES, DUES

"Read my lips", George said, "no new taxes". Well, economic realities seem to always rear their ugly head and we are faced with those ugly realities. The truth is that the S.A.A.A.A. has had the same $20.00 membership dues since the Big Bang, or for a long time for you steady state folks, and we are losing the battle of an inflating universe. The economic reality is that your dues, after the price of your SKY and TELESCOPE, do not cover the cost of postage for your copy of S & H and our Astronomical League dues. The stamps for your S & H are donated by a club member as are all the materials used in publishing the News letter. As editor, I do not ask or need reinbursement for the materials used in the newsletter.
But we have to look toward the future. We have many exciting projects in the mill that will require all kinds of support from the membership. One kind is economic. So think about our future needs and consider the posibility of and increase in our annual dues. This subject will be raised at the Aug 7th meeting.

INFORMATION SHEET NUMBER 25 (Edition No. 1, February 1990):

INTERNATIONAL DARK-SKY ASSOCIATION

3545 N. Stewart, Tucson AZ 85716 U.S.A.

How To Talk To Your Neighbor Who Has A Bad Light

Here's a typical Scenario: Your neighbors have just installed a dusk-to-dawn 175 mercury vapor light fixture, because they are worried about security. You can see what happened: they went down to the discount supply house and said "Give me the brightest, cheapest outdoor lighting fixture you have." And that's exactly what they got, paying "only" $29.95 (maybe even less). They brought it home, and hung it up. Now it's splattering light everywhere, including into your lawn and in through your windows. They have their blinds drawn, of course, because they can't stand the glare either.

What did they get? A very bright light, with very little light control and lots of glare. It produces lots of light trespass, light pollution, and energy waste. They probably now have a "feeling of security." Real security is likely not to be any better than before.

Here's some ideas on what to do: First and always, be tactful and understanding. Don't argue. Do your homework first. Be well prepared. Understand the essence of the energy facts given below, and of what makes a good security light. Know the local costs of electricity, in KWH's. Know if there is a local lighting control ordinance, and, if so, the details of what is included, what enforcement is being done, who was involved, etc. Look around for the availability of good security lighting fixtures, and how much they cost. Facts are not enough, however. Emotions and perceptions are there all the time. Personal relations are very important and are in play all the time.

Approach them in a friendly way. They are worried about their security and safety. They tried to do something about it. Maybe they saw an ad from the utility company, or elsewhere, touting these specific lights. Maybe they got a "good deal" from the power company. Maybe they just didn't know what to do, but thought that adding a lot of light would help. Don't tell them, particularly in an unfriendly way, to shut off their light because it bothers you. They won't, and you will likely have hardened their position.

Make positive approaches. Help them solve their problems. Offer alternatives. Be flexible to the local needs. Ask for their advice also, in solving your problem. Most people really like to be helpful, when they can. Let them know how. Be prepared to compromise, but always keep the overall goal in mind. You want and need dark skies, and no light trespass. You also want a secure and safe nighttime environment, just as they do. You want to help the country save energy and money. Show that you care, for all of those things in general, and for your sky, and for them.

Here are two specific issues you can discuss with them, to help win them over:

1. The Energy Issue, and Cost Savings: When new, the 175 watt mercury vapor lamp puts out 8000 lumens (a lumen is a measure of the amount of light produced by a lamp), declining in light output with time. The mean lumen output (after some years of use) is about 7000 lumens. That amount of light output compares approximately to a 400 watt incandescent lamp, a 100 watt high pressure sodium lamp, or a 55 watt low pressure sodium lamp. (See IDA Information Sheet No. 4)

These lamps use considerably different amounts of energy to produce the same amount of light. When energy costs were very low, not that many years ago, it made little difference. Now, however, it does make a difference, especially when you consider how many of these lamps are in use in an urban area, or in the United States. There are many other lighting installations wasting light as well, with their use of inefficient lighting fixtures. (See IDA Information Sheet No. 26)

The cost to the country of all this wasted light is over *One Billion Dollars a Year.* (See IDA Information Sheet No. 26) And all this wasted light and energy is doing *nothing* to promote safety, security, or a better life at night. It is merely lighting up the sky, causing glare (glare *never* helps visibility), and offending neighbors. None of the Billion Dollars is being used to light the ground, or to provide safety and security. The glare and confusion and clutter caused by the bad lighting are definite factors in accidents and losses caused by such accidents. This also costs the nation too much money and pain. As individuals, we must do what we can to stop such waste.

2. Real Safety vs. Perceived Safety: The 175 watt dusk-to-dawn may give the illusion of safety, because it's so bright, but it is really counterproductive to good vision. The criminal can hide in the glare or in the harsh shadows from such poor lighting (Look around near one; see the deep shadows? Imagine you are a criminal. Can you hide easily? Can *you* see easily? Can the owner?) The light used should be of such a nature that *the owner* can see.

So what to do? Here are two suggestions. Other good ideas are possible too, with conscious thought about the issues. Remember that quality lighting is only one facet of good security, and no lighting system, no matter how good, will ensure security. But quality lighting will offer a much better chance than will poor lighting, which may, in fact, help the criminal.

A. Use a low wattage (18, or 35, or 55 watt) low pressure sodium light source, in a good (well shielded) fixture. The fixture should control the light output so that it goes only where needed, not into a neighbor's yard or windows, or up into the sky. There is lots of light (a good 35 watt LPS fixture will put out more useful light than the 175 watt dusk-to-dawn; even an 18 watt one will probably do a better job, at one tenth the energy cost). There is essentially no glare at all. One is not blinded, one can see. There is essentially no light trespass or sky glow produced. There are no dark, deep shadows for criminals to hide in. Visibility is the goal, and these quality LPS fixtures offer excellent visibility. There are also some excellent well shielded HPS fixtures.

B. Use an infrared sensor spotlight fixture. The spotlights only come on when the sensor senses movement. Any intruder will be scared off by the sudden turn-on of the spotlights. You are alerted by the light coming on (you can buy fixtures which will also sound an alarm inside the house, if you want the added security). What could be better? This type of fixture is a great security lighting system: effective, quality lighting. (Be sure that the fixture is mounted under the eave, so that there's no wasted light, and point the light beam where it's needed, not into your neighbor's yard.)

The infrared sensed lights are widely available, in stores or by mail order. The cost ranges from about $20 to over $100, depending on the quality and who is selling them. They are easy to install (just mount them, plug them in, and adjust them) and use. The LPS fixtures are harder to find, as few know of their existence. Ask for them at the local lighting suppliers. Insist on them. With such demand, they will start stocking them. If all else fails, buy them by mail from a Tucson lighting supplier.

The quality LPS fixtures will certainly cost more than the 175 watt mercury, especially in an area where few are sold. But even if they cost $120, they save lots of energy and money. For example, 175 minus 35 watts is 140 watts, times 4100 hours per year, yields 574 KWH saved per year. At 8 cents per KWH, that is $46 dollars saved per year compared to the mercury. So the payoff period to replace a mercury with an effective lighting fixture is $120 divided by $46 or about two and a half years. If one considers the cost of the mercury fixture, say $30, then it's $120 - $30 = $90 extra cost, and $90 divided by $46, or a payoff period of only two years. The spotlight solution also has a very fast payoff period, of course. Very few energy savings concepts have shorter payoff periods than replacing ineffective security lights with better ones.

For more information about the issues, contact the International Dark-Sky Association, at the address at the top of the Information Sheet. Other information sheets available from IDA also address the issues of energy savings, the 175 watt mercury dusk-to-dawn fixture, the operating efficiencies of different kinds of light sources, and other quality lighting issues. Join the cause of better lighting, and energy savings. We all can win. Ida is an incorporated non-profit organization.

MEETING MINUTES SUMMARY FOR JULY 3, '90

The meeting was called to order at 7:10 P.M. by president Sonntag. The secretary-treasurer presented a report on the june star party and the Odessa Meteor Crater outing. Mark Sonntag presented a report on the teachers workshop on astronomy he had just finished up. He also presented a draft of the proposal to the university for the observatory. It was decided to hold an executive meeting on Monday, July 9th, to discuss the proposal in detail. The Telrad viewfinder that will be presented to the McDonald Observatory Visitors Center for use on the 14" telescope was presented. One of the members noticed that the small plastic tag that read "Donated by the San Angelo Amateur Astronomy Assn" had a misspelled word in it. The Secretary-treasurer will get a new tag made and replace the one that is wrong. An idea by Mark Sonntag to have an annual field trip to McDonald Observatory to use the 24" telescope was briefly discussed. It will be decided later when such a trip would be best. The members present voted for the Astronomical League president and vice-president and a proposed amendment. Mr. Fox won the vote for president and Mr. Sherlin got the vote for vice-president with a yes vote going to the amendment. The results of these votes will be sent to the Astronomical League. Mr. Vernon Payne read a letter that he intends to send to Sky and Telescope. Our "Champion of Tired Light" disagrees with some of the information in some of the articles. Watch for it. The mirror problem on the Hubble Space Telescope was discussed. The meeting was cut a little short so members could attend the July 4th Pops Concert at the Riverstage. The meeting was adjourned at about 8:30 P.M.

STAR PARTY REPORT FOR JUNE 22, "90

The weather cooperated nicely for the June star party. Although the seeing was only fair to good, Kevin Mace provided us with some very good images of several nebula with his high contrast filter. There were eight members and three visitors present. Let's hope the seeing is a little better for the July party. See YOU there!

ODESSA METEOR CRATER FIELD TRIP ON JUNE 23, '90

On June 23rd, five club members and three visitors went to the meteor crater at Odessa. Joe and Leah Lynch, Jim McCurdy, his wife and two young daughters left San Angelo about 7:30 A.M. Saturday morning. We arrived at the crater about 10;30 A.M. and were soon joined by two more club members. Jeff Foreman was in Midland attending summer college classes and Wade Seiffert was there with his church group.

The crater is about 20,000 years old and 600 feet wide. The original hole was about 100 feet deep but has now filled in and is only 10 feet deep. The meteor was not a single body but had broken up into many pieces. The largest piece made the crater but the smaller pieces fell in a 2 square mile area around the main impact point. The area has been picked over by meteorite hunters for many years. Using a metal detector outside the crater (they won't let you hunt in the crater), our group found several smaller pieces of ferric material. After we got home, I ran several chemical tests on the material and found it to be very rusty pieces of old iran (nuts, bolts, etc.). The area around the crater has had oilfield activity for many, many years.

Although no pieces of meteor were found, we all had a good time looking and didn't run across even one rattlesnake. Perhaps we could go back again in the fall when it isn't so hot.

EXECUTIVE MEETING MINUTES - JULY 9,'90

The meeting was held at 7:00 P.M. in a class room adjacent to the ASU planetarium. There were nine members in attendance. Dr. Sonntag's draft proposal to the university for the observatory was discussed. A few minor changes and additions were recommended to the proposal. Dr. Sonntag will present the proposal to the university at the earliest opportunity. The final draft will be presented at the Aug. meeting.

A star party was set for Friday, July 20th. at the Grandview site.

The last item discussed was club dues. The club only keeps $4.00 per member from the annual $20.00 dues. The subscription price for Sky and Telescope is $16.00 this year. As the club gets more involved in projects, our working capital needs to be at a higher level. At present, the $4.00 does not cover working expenses. It was agreed to propose a by-laws amendment that will increase the club dues at the Aug. meeting with a vote taken on the porposal at the Sept. meeting. See this newsletter for an article explaining the dues proposal and the quarterly treasurers report.

ATTENTION CLUB MEMBERS

NOTICE OF PROPOSED BY-LAWS AMENDMENT

At the July 9th executive meeting, the subject of club dues was raised. It was pointed out by the secretary-treasurer that the $20.00 annual dues is not sufficient to cover working expenses. a breakdown of yearly expendatures per member is as follows: Of the $20.00 annual dues, $16.00 goes to Sky and Telescope for your subscription. This leaves the club with $4.00 to cover other expenses. The SAAAA is a member of the Astronomical League and must pay dues. These dues are @20.00 for the club and $1.55 per member. The $20.00 for the club, divided by an average of 30 members, cost each member $0.66 plus their individual $1.55 or about $2.25 per member. The club also maintains an archives of Sky and Telescope magazines and an honorary membership with subscription to Mrs. Moon. This $32.00 per year for two subscriptions, divided by an average 30 members, is about $1.00 per member. Each member recieves a newsletter each month. The postage is $0.25 per newsletter. Each newsletter cost $0.09 per page and usually has 8 pages for a cost of $0.72 per newsletter. The club exchanges newsletters with four other clubs and each month about five complimentary copies are sent out. The combined cost of the newsletter per member per year is $4.85. The club is fortunate in the fact that very few newsletter expenses have been charged to the club. In the past, The secretary-treasurer has donated these costs. Presently the costs are being donated by the secretary-treasurer and the newsletter editor. But this may not always be the case. It is not fair to expect these club officers to donate their time AND money, even though they do so voluntarily.

The club maintains a checking account to help the secretary-treasurer keep an account of the club funds. This account is always kept where ever we can get the best interest on your money with the lowest service charge. At present, the service charges on our account is $8.00 per month and the interest income averages about $1.55 per month. This comes to $6.45 per

month or $77.40 per year, divided by an average 30 members, for a cost of $2.58 per member.

Each year a club member is honored for outstanding service to the club with an "Astronomer of the Year Award". The cost of this award is about $30.00 or about $1.00 per member per year. In addition, miscellaneous expendatures cost each member about $0.75 per member per year.

Astronomical League dues	$2.25
2 sub to Sky & Telescope	1.00
newsletter	4.85
Astron. of Year Award	1.00
bank account	2.58
post office box	1.30
misc.	0.75
Total expendatures per member per year --	$13.73

The club maintains a post office box so that we will have a permanent address that does not change every time we have a new secretary-treasurer. As you can see from this breakdown, The $4.00 from each member does not begin to cover minimum expendatures. It will be proposed at the Aug. meeting that the dues be raised to a fixed amount plus the cost of Sky and Telescope. the figure of $15 or $20 was suggested as the base price for dues plus the cost of the Sky and Telescope subscription. Additional family member dues will remain at $5.00. The proposal cannot be voted on until the Sept. meeting. Our by-laws requir that members be notified at least one month in advance of a vote on a by-laws amendment. This anouncement serves as that notice. Please make every effort to be at the Aug. and Sept. meetings so that your comments and opinions can help form the proposal. If for some reason you cannot attend the meetings, please feel free to call me or any of the officers and express your opinions.

For the club to grow and better serve its members, future projects, such as the observatory project, is a must. To do these things and maintain the equipment the club owns, a pool of working capital is necessary.

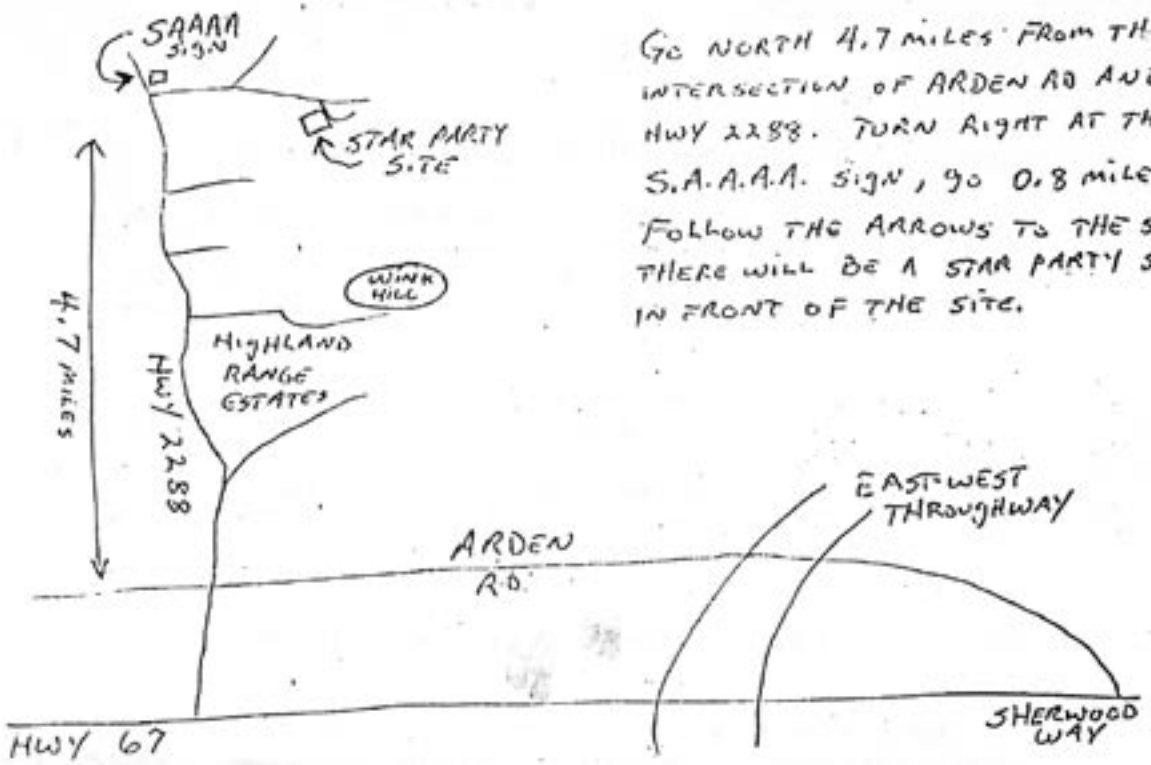
See you at the August meeting!

Joe Lynch
Secretary-Treasurer

SECOND QUARTER TREASURERS REPORT

		Balance (04/01/90)	$403.16
Receipts:			
Donation for newsletter pastage (Apr, May & June)	33.25		
Interest income (Apr, May & JUne)	4.72		
Donations for Telrad	55.00		$496.13
+Total	92.97		
Disbursememts:			
Name tags ordered	6.99		
Bank Svc Chg (Apr, May & June)	24.00		
Telrad (plus shipping and ins.)	48.75		
Plastic tag for Telrad	5.21		
A.L. dues	72.70		
Newsletter postage (A,M & J)	33.25		
-Total	118.20	Balance (06/30/90)	$377.93

STAR PARTY SITE



GO NORTH 4.7 MILES FROM THE INTERSECTION OF ARDEN RD AND HWY 2288. TURN RIGHT AT THE S.A.A.A.A. SIGN, GO 0.8 MILES, FOLLOW THE ARROWS TO THE SITE. THERE WILL BE A STAR PARTY SIGN IN FRONT OF THE SITE.

STARBEAMS AND HELIOWINDS
3809 ROCKBROOK
SAN ANGELO, TEXAS 76904

...RS. D. ...RI L
... E. TH ...
... ANG...LO, TX 7... 3

NEXT MEETING - AUG 7, 1990