

# SOUTHERN SKIES



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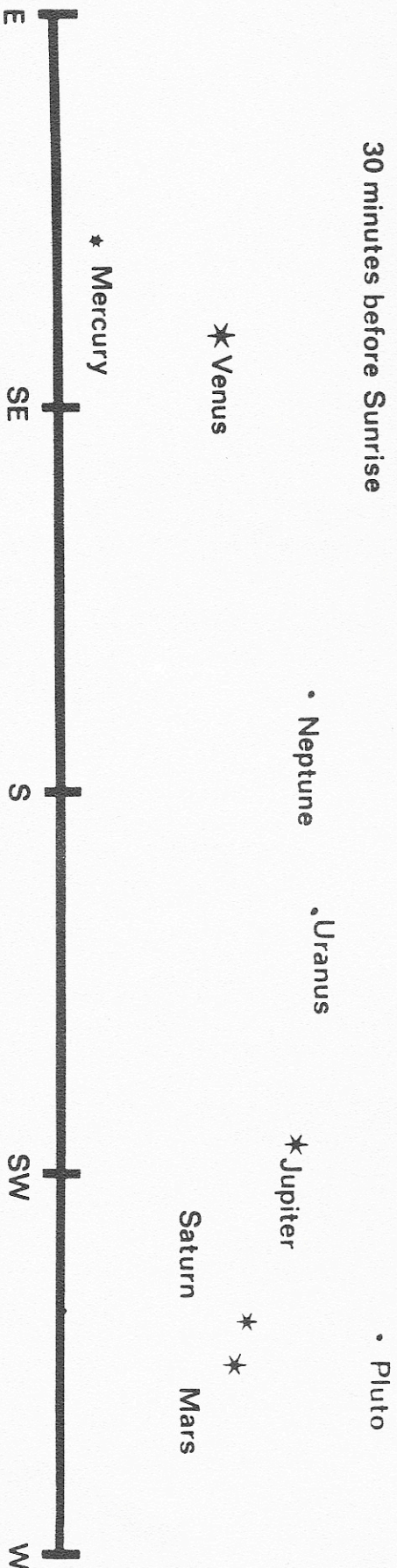
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# Earth Survives Planetary Traffic Jam

The location of the planets in the Solar System this March will pose no threat to planet number three. The alignment, however, will create an unusual situation where all of the other eight planets are in the sky at the same time, and four of the eight are easy to find with the naked eye. About a half hour before sunrise, the planets stretch from the east to west horizons, with none higher than 40° in the south. Mercury will be the closest to the southeast horizon and will be difficult to glimpse in the glow of twilight, having passed greatest western elongation in late February. Uranus might have been visible to the naked eye before the start of morning twilight if the sky was very dark. Neptune and Pluto are always too faint to be seen without the aid of a telescope. The remaining four planets are among the six brightest objects in the March morning sky. Venus (mag. -4.3) is brightest, followed by Jupiter (mag. -1.9), Mars (mag. -0.8), the star Arcturus (mag. +0.06), the star Vega (mag. +0.04), and Saturn (mag. +0.6). From the sun's point of view, the nine planets are within a 98° wedge of the Solar System (March 10), but from the earth, the other planets span 130° in the sky.

MID-MARCH, 1982

30 minutes before Sunrise



# Southern skies



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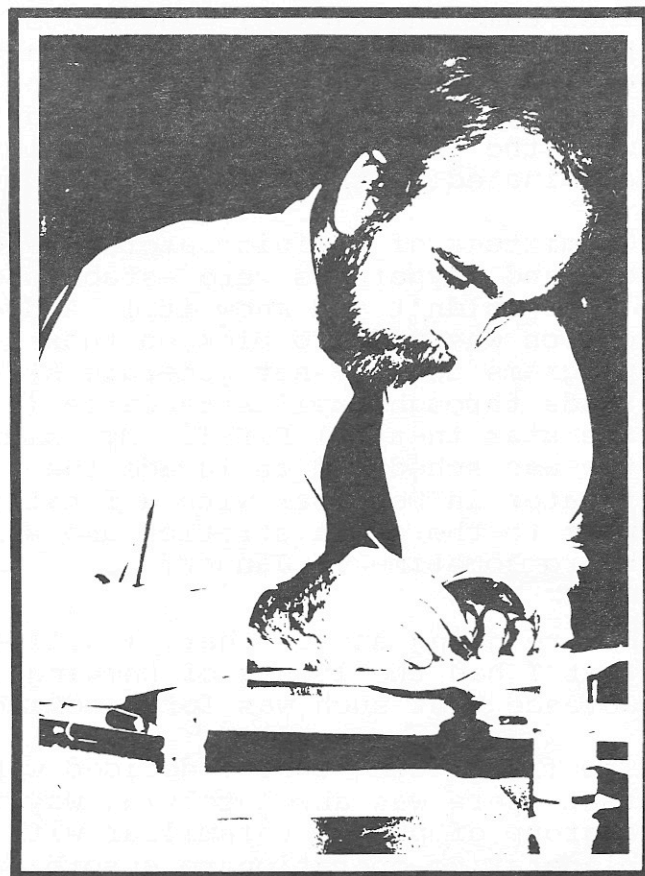
## MESSAGE FROM YOUR PRESIDENT

I guess this is the season for everyone to take pot shots at planetariums or, at least, for members of the profession to air publicly differing opinions re: the philosophy of planetarium operation. First there was the article in the December issue of ASTRONOMY MAGAZINE: "The Planetarium, A Cultural Dinosaur." If you dismayed enough by that, you were sure to be totally disheartened by an article which appeared in SCIENCE DIGEST: "Battle Under the Dome."

I even went to the extent of authoring a rebuttal which took the form of a dialogue interchange between myself and my star machine with the intent of having it published here and with the outside chance that it would be considered by the two respective publications mentioned above.

The article was never sent, even to our editor. It suddenly crossed my mind, regardless of how eloquent I thought my work was, that such a venture would not resolve a thing. If anything, it would simply fuel the fire of a conflict which has been going on for years and is hardly going to be resolved by any one individual's opinion.

So let's change the subject and talk about something else - like survival. Every year we hear about so-and-so's planetarium being shut down or ser-



ious consideration of same by the powers that be. We perhaps feel a slight tinge of remorse, but nothing much more than that because (we tell ourselves) 'It could never happen to me.' I know that's the way I felt.

Well, my dear friends, let me clue you in. IT CAN HAPPEN TO YOU. It almost happened to me. The question then is this: Is there anything you can do about it, or do you just sit back and wait for something to happen.

Here in Lake County since last August there were the usual rumblings about not having enough money to give teachers a decent pay raise; that programs were going to have to be cut to do same. There were even reports of some school board members speaking to local civic organizations advocating the closing of a number of centers including 'that plant-growing place.'

I've heard all of that before, and paid little attention to it. After all, I knew I was doing a good job. Then came the kicker! The school board ordered the administration to conduct an in-depth evaluation of every program beyond basic education with the intent to see what could be eliminated in the future.

Committees of administrators, teachers and laypersons were established. (And wouldn't you know it.) A decision was made to pick on those programs that do not generate state funds through pupil attendance (i.e.-the star theater) FIRST. My committee was scheduled to invade the theater in December with a final report to the administration and school board sometime in January.

Before going any further, I will say that I had the luxury of knowing in advance that such was forth-coming.

The first thing that I decided was that there was absolutely no way for a group of people unfamiliar with planetarium operation to absorb and have an appreciation for the entire scope of our operation based on a meeting to last perhaps an hour. They needed to be armed with information in advance, so that when questions came, they would be intelligent ones.

After a month of in-depth research, I prepared a 28 page, typewritten report: Planetarium, Lake County Schools: A Self Study. Each copy was bound in a transparent plastic cover with Dymo embossed names for each person to receive same: The superintendent, Ass't. superintendent, and committee members.

If anyone wishes to receive a copy of this report to use as a basis for a similar study, please get in touch with me. I shall not go into detail here as to contents other than to list topics presented in the report.

- I: General History
- II: Operational History
- III: Attendance Figures (broken down by (1) school participation & (2) grade level participation.)
- IV: Funding
- V: Cost per individual receiving planetarium services
- VI: Professional equipment on hand
- VII: Accomplishments
- VIII: Drawbacks (a) curriculum, (b) facility.

The one thing which I believe impressed committee members the most was a chart prepared for section II: Time and Cost Analysis for a Typical 40 minute Planetarium Program (In House Production.) It impressed me! The chart showed 13 steps toward show completion and included a cost estimate for professional services were the work contracted out. Labor cost (my salary): \$1,562.00, Materials \$34.00, professional costs for same service: \$4,205.00

In case you are wondering what the amount was for section V, this modest/one-man operation cost \$1.83 per person last school year.

Did my report help? Well, the committee met in December (I was not asked to be present.) Their findings were presented to the administration the 3rd week in January. (Once again I was not there-too many 2nd graders funneled through the theater.) What eventually got back to me was that the theater came out smelling like a rose. Apparently, I was the only program that bothered to publish such findings.

What really made me feel good was when the superintendent came out this week and told me to disregard anything that I see or hear in the media. The planetarium was on good ground and he had no intention of closing

the place down.

To be honest, I should relate to you the phone call which I received from the committee chairman. "Mike, I thought that you wanted to know what we said. We decided that the theater was a waste of taxpayers' money; that the programs were terrible; that no one wanted to come; and we are recommending that when funds become available that your dome be expanded to 30 feet." Heart attack time.

Let's be honest. I'm not completely out of the woods. The report has yet to go to the school board: an organization that has meetings so political, they are more fun to watch than Howard on Monday Night Football. (What was the famous saying Mark Twain coined decades back?: First God created idiots. That was just for practice. Then he created school boards.)

My advice, then, is as follows: If you hear that something like this is about to confront you, evaluate yourself first. In other words, do their work for them. See you in June.

Mike

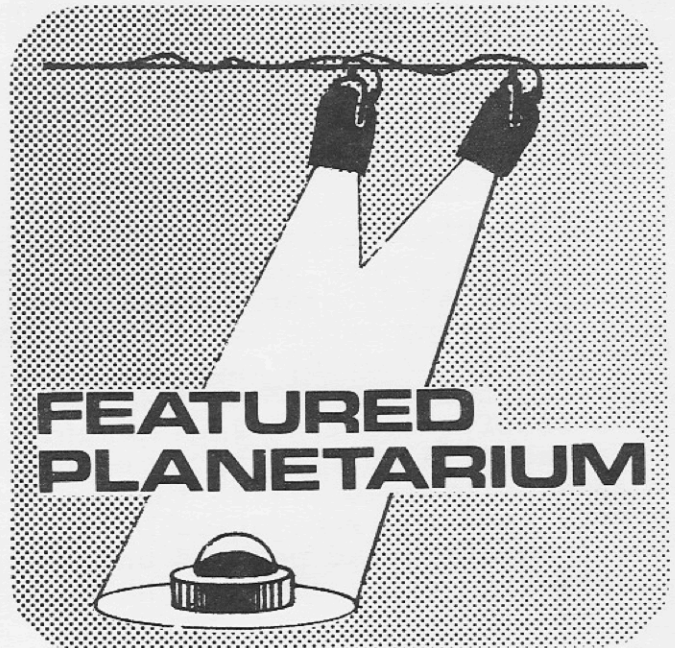
## 1982 CONFERENCE UPDATE

All members please take note. Conference dates for June 1982 have been moved due to the tremendous demand on Hotel accommodations for the 1982 World's Fair in Knoxville. We booked our rooms in July of 1981 and even at that early date June 8-12th was our only possibility. We are aware of the problems this causes for some members especially for those affiliated with school facilities.

Just keep in mind that the World's Fair will be part of the conference package. A number of items for use at your facility are also being developed for conference distribution. Contacts have been made for guest speakers and entertainment and we

hope to have some specifics in your hands with a special mailing by late February. In the meantime start planning your papers, demos. & workshops; we'll be calling on you soon.

Mike Chesman  
Charles Fergusson  
(Your 1982 and never  
again conference hosts)  
(Just kidding)



## AKIMA PLANETARIUM

By Charles R. Ferguson  
Akima Planetarium  
Knoxville, Tennessee

Many of you have probably heard of the Akima Planetarium from the captioned programs for the hearing-impaired audiences produced here in 1979-80. However, few of you are familiar with the facilities and even fewer have been by for a visit. In June of 1982 the Akima Planetarium will cohost the SEPA conference with the Bays Mountain Park Planetarium in Kingsport. I hope this short introduction will help entice you to attend the conference or to visit the facilities if you pass through Knoxville or come to the 1982 World's Fair.

The Akima Planetarium is a part of the Students' Museum located beside the nationally renowned Knoxville Zoo in Chilhowee Park. The students' Museum is a dynamic, natural history and science museum, bustling with activity, enthusiasm, and creativity, devoted to the education of students of all ages. The Students' Museum was established in 1960, opened in its present facilities in 1976, and has increased its staff from one to the present five museum personnel plus one planetarium person. Attendance at the museum since the opening in 1976 is 160,000 visitors, with an annual visitation rate presently about 30,000 and increasing approximately 10 percent every year.

The Akima Planetarium is a 30' tilted hyperhemisphere housing a modified Spitz A3-P' star projector, with a seating capacity of about 60. The original seating made use of the carpeted terraces of the floor (sort of a festival seating arrangement). After about a year seats were purchased by individuals in the community from the renovation of a local theater, and painted and upholstered with volunteer help.

Over the past year the facilities have undergone some major changes. A two story office/workshop area has been built in what was previously considered to be useless, wasted space. The new facilities represent a three-fold increase in space over the old production areas, was built by a crew of two (my brother and myself), and was not as expensive as you might think. A new cove lighting system has been installed by myself, replacing the Spitz installed Lumilines with a screw base system. It cost about as much to install as new lamps for the old system, the lamps are one fourth the cost of the Lumilines, and system has been working for well over a month without a single burned out lamp.

The console is being enlarged to

allow for growth, both past and future. An elevator for the star projector is being designed by a volunteer, a local design engineer, and will hopefully be installed in January at a substantial saving. These and other modifications should be ready by conference time next June.

The automated projection system allows the planetarium programs to be stored and retrieved for showing upon request. There are presently 16 shows that are available for teachers and groups to select from, and so groups are not tied to what ever is showing this month.

The Planetarium also plays host to the Junior Astronomy Club and the Smoky Mountain Astronomical Society serving the Knoxville area and East Tennessee.

During the conference everyone will be able to tour the museum and planetarium facilities, see some of the star shows, and explore the World's Fair here in Knoxville. I think the Akima Planetarium can offer much encouragement and evidence to the small planetarium that much can be done with a little money and a lot of enthusiasm.

### WHO'S MOVED?

Joe Hopkins, formerly of the Memphis Pink Palace Planetarium, has left Memphis for sunny Florida. Joe is now the Technical Director at the Bishop Planetarium in Brandenton, Florida. Joe took the job that John Hare, Director of the Bishop Planetarium, advertised in the last issue of Southern Skies.

Have you made a move or do you know of anyone who has? Please let me know.

J.K.F.

Most of you are members of the International Planetarium Society. As you no doubt remember when Bill Peters took over as the new IPS President, he stated that he was interested in instituting a United States Planetarium Committee. Many people were confused as to exactly what Bill wanted to do so I requested he write the following article to explain his position.

J.K.F.

## A UNITED STATES PLANETARIUM COMMITTEE

By Bill Peters  
President,  
International Planetarium Society

When I took over as President Elect of IPS I presented a proposal to Council for the formation of a strong committee to pursue affairs of national interest to the U.S. planetarium community. This idea attracted considerable interest and controversy. It is still very much alive, although it has evolved quite a bit from its original form. The IPS Council will consider a variant of this proposal at our next conference in Vancouver, B.C. Jack Fletcher has asked me to explain the motivation behind the proposal for the benefit of SEPA members.

It is no secret that most organizations, especially ones where some politics come into play, operate largely by crisis management. Those who have the power or the motivation to do anything for an organization seem to spend all too much of their time "putting out fires". This is why many organizations, governments, businesses and even planetariums seem to blunder along. They are, quite literally, progressing only from blunder to blunder.

I knew that, as IPS President, I would spend quite a bit of time in crisis management (and I have!). It is one thing to recognize a management problem and another to do some-

thing about it. However, before the crises became too engulfing, I took a good hard look at how IPS was serving its members with a view to formulating some positive goals to work towards. The U.S. Planetarium Committee proposal resulted from this analysis.

Right now IPS consists of eleven affiliated organizations. Seven of these groups are the regional planetarium associations within the United States. Three affiliates, encompassing Britain, Canada and Mexico, are national organizations. One, the European/Mediterranean Planetarium Association is multinational. It is still in its formative stages and as yet represents only a small portion of the European planetarium community. Contacts are being pursued with the prospect that Japanese and Indian groups will eventually join IPS.

It is apparent that IPS is slowly evolving from a primarily U.S.-based group, with some Canadian members to one that truly lives up to the "International" in its name. Most members that I have spoken with about the development of IPS regard this kind of change as natural and desirable. At the same time many have expressed some reservations about how IPS will continue to serve its U.S. members.

In the past, IPS has acted on behalf of the U.S. planetarium community very much as the national affiliate that I am most familiar with (PAC) has acted on behalf of the Canadian planetarium community, dealing with national issues and organizations. For example, my predecessor as president, Jim Hooks, made a presentation on behalf of IPS to a Congressional Subcommittee. As IPS becomes less "American" looking, it will be less able to fill this role of national liaison, and it will be less appropriate for it to do so. IPS in the U.S. (and PAC in Canada) have only made very limited attempts at national co-ordination so far. I feel that significant benefits may be drawn from some vigorous work at the national level.

Here are some benefits and possibilities that would be difficult for regional organizations to achieve on their own:

It would be valuable to maintain contacts with other national groups, particularly related groups like Astronomical and Museum Societies. Contacts with educational organizations like National Science Teachers Association or Public Television could also enrich both the U.S. planetarium Community and, through it, all of IPS.

Some of these related national bodies are relatively rich and powerful. Perhaps if we offered the appropriate quid pro quo they would be willing to share in some of the benefits that they bring to their members. Also they may wish to add their clout to ours on some important issues. (Like seeking to keep government funding levels to planetariums up.)

Some formal direct way is needed for the U.S. planetarium community to deal with the U.S. government.

First of all, this would help insure that planetariums and planetarium organizations got a fair share of federal resources and attention.

Also it could serve to make planetariums aware of all the resources that may be available to them. This could range from NASA photos to grants from federal agencies. It would be helpful if ways in which the feds had helped in the past were publicized, to suggest ways in which others could seek aid.

A national body might approach other national bodies, both

inside and outside of government, to fund worthwhile projects in the U.S. planetarium community. Also, it would add its weight to funding applications from individual planetariums or from the regional groups.

I wonder if the Carnegie Foundation or the NSF would provide funding so that a few planetarians could spend a summer at Palomar or at Kitt Peak each year. There is a program like this for science journalists.

Alternatively, many planetariums would benefit from having a research astronomer on staff for a period if funding were available.

I realize that the possibilities I have outlined so far are rather nebulous. However, there is presently no systematic way to do the research to broaden this menu of ideas, and work each idea down to specifics so action can be taken. The first job I would like to see a "U.S. Planetarium Committee" charged with is doing the homework to identify potential opportunities.

After identifying the need for a coordinated effort at the U.S. national level, I considered how it could be met. I felt that it was awkward and inappropriate for IPS officers, as such, to do this job since they are coming to represent a much larger constituency than just the United States. Canadian planetariums would certainly be incensed if IPS sought to act on their behalf with the Canadian government (unless asked by PAC). While IPS is still seen by some of us more as "the U.S. Planetarium Society", I believe that this feeling will slowly change as IPS changes.

What's needed is a small group of individuals that really, uniquely, represents the U.S. planetarium community. This community is already



represented by the IPS Council members from the U.S. regional organizations. A committee of these individuals could do the job if it was set up to yield enough stature and clout.

The individuals on this committee are in a good position to coordinate their work closely with that of IPS. It would be convenient and appropriate for this group to get together at some of the more attractive U.S. regional meetings where many of the IPS representatives come together in any case. Their communications to the planetarium community could be carried in the IPS literature or in the publications of the U.S. affiliates. In this way we could cover these U.S. national possibilities without directing effort or funds away from IPS or the regional organizations.

I am convinced that there is a need to be filled here, and I want the group set up to handle it to have some extraordinary powers. A super-committee is needed to take on this very big job. We may wish to call it something stronger than committee, for example. Perhaps it should have a life of its own, guaranteed by the IPS Bylaws, rather than continual reconstitution at the whim of IPS Council.

Some of my colleagues are not so sure about this proposal. IPS Council has asked Jim Hooks to have a closer look at these suggestions, and give us a report with a U.S. viewpoint at our Vancouver conference.

I sense that the main reason why some members feel uncomfortable goes deeper than this proposal. They see IPS growing away from the format they have come to know and love. Conferences are getting bigger, busier and they are beginning to be held in far flung places that are harder to get to than they used to be. The core of people that have made a go of IPS in the

past are still with us, but now there are quite a few new faces in the crowd too.

We can't stop IPS from changing and growing. We can insure that the changes meet our own needs for a professional society, and the needs of our colleagues everywhere. More than just giving the "U.S. Planetarium Committee" idea some thought, consider it in the context of what you would like to see your organizations do on your behalf, what you would like to see them become. Make sure that your SEPA rep., Mike Ryan, knows how you feel so he can make your case at our Vancouver meeting.



EDITOR'S NOTE: The following column is dedicated to those of us who, at times, feel utterly lost in our planetarium. Uncle Fuzzy (who for some obscure reason prefers to remain anonymous) will gladly tackle any question. Simply mail your problem to Jack Fletcher, Newsletter Editor, and it will be forwarded pigeon class in a sealed mayonnaise jar to our omniscient wonder.

\* \* \* \* \*

I am pleased to report that my stay at a world famous sanitarium did me heaps and bunches of good. The mind is as keen as ever; the tongue as sharp as ever. Uncle Fuzzy is raring to go, as obnoxious as ever.

Since only two of you turkeys had the gumption to send me letters since the last issue of Southern Skies (your editor tells me only two were fit for printing) we will move right on. What's wrong out there? Are you scared to write to Uncle Fuzzy?

Dear Uncle Fuzzy:

You look like a distant relation to a certain planetarium director in Richmond, KY. Have there been any other recent genetic throwbacks in your family? Also, where does your lap go when you stand up.

Signed: A. Nonimus

Dear A.:

All of a sudden everyone is desperately curious as to my true identity. OK, we will feed you a clue or two. Not only is the city wrong, you're not even in the right state! As far as other family members, when they made my brilliant personage, they threw the mold away. Thus you will be stuck with only my wisdom unless some day there are little Uncle Fuzzies running around. Can you stand to wait? Regarding my lap . . . I'm all together. The mind does tend to wander at times, but the rest of me is one solid hunk of humanity. Next question.

Signed: Uncle Fuzzy

Dear Uncle Fuzzy:

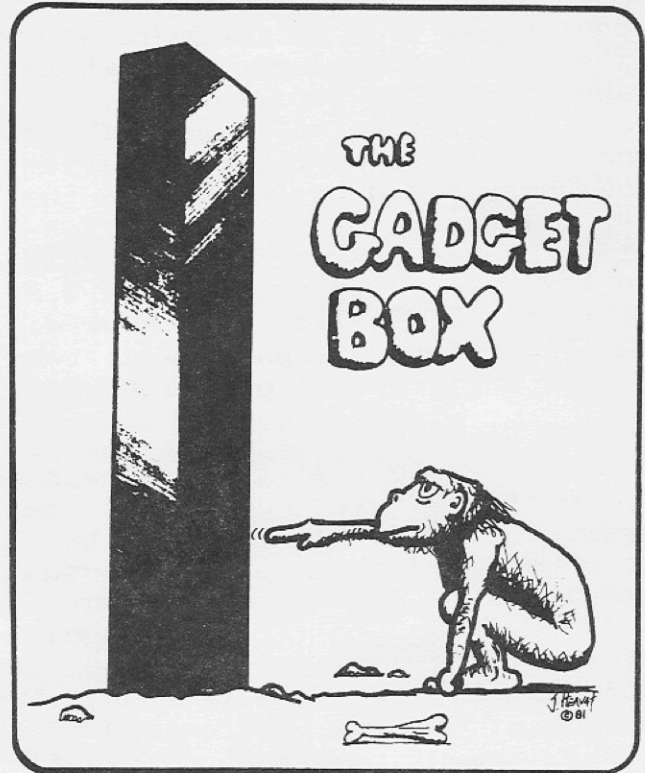
Are you sure that your name is being spelled right? Shouldn't it be Uncle Dugzzy?

Signed Dr. Lee S.

Dear Dr. Lee:

Doug Gegen, are you reading this? They actually think that you is I! Sorry, Dr., Doug is too nice a guy to write this horrible column. I'm someone else. Think nasty!

Signed: Uncle Fuzzy



The Gadget Box is a column dedicated to production ideas and techniques. Articles on art production as well as gadgets will be appreciated. I encourage all of you reading this column to share your nifty ideas with us. In this month's issue of the Gadget Box, Joe Hopkins is talking again about those 7 pins in the back of a carousel projector. Joe has some really neat circuits for us to try.

In the last Gadget Box column, John Hare showed us how to make one of his super multi-purpose gadget boxes. I promised you that in each succeeding issue, John would tell us how to make a gadget insert for that box which would allow us to show differ-

ent effects. I talked with John just a few days ago and discovered that due to his hectic schedule he was not able to complete an article for this issue. John asked me to tell you not to despair because future issues of the SEPA Newsletter will contain an article by John on how to build a nifty effect for his multi-purpose gadget box.

## 7-PIN GLADNESS

By Joe Hopkins  
 Memphis Pink Palace Planetarium  
 Memphis, Tennessee

In our last sojourn into the mysterious world of Carousel electronics (Southern Skies - Vol. I, No. 3), we entered through the 7-pin socket at the rear of the projector and took command of the Carousel's bodily functions using basic control techniques. In our quest for ever more stellar (sic.) performance from our equipment and in the hope of using long (25' and over) control lines to whip our Carousels into shape, let us now examine the use of DC controls to this end.

Before we can use low-voltage DC controls we must have a source of low-voltage DC (fascinating logic, right?). Figure 1 shows a 12VDC supply which is capable of delivering enough power to control as many as six of the control sets we will design. If you already have a source of DC in your console you may use this if it has sufficient extra power to go beyond its present duties (check carefully on this). If you want something other than 12 volts

you may use a different regulator; a 7805 will yield a 5 volt DC source, for example. If you use another voltage, for example, you will need to use 5 volt relays in place of the 12 volt units specified further along in this literary masterpiece; all other components may stand as served. Now that we have our source of DC cooking, we may begin to improve our manual control system. We saw in the previous article that connecting the common (pin 5) momentarily to pin 1 will advance the projector and to pin 2 (for a slightly longer time) will reverse the projector. Figure 2 shows how to do this with relays while Figure 3 shows a refinement of this circuit. Adding the transis-

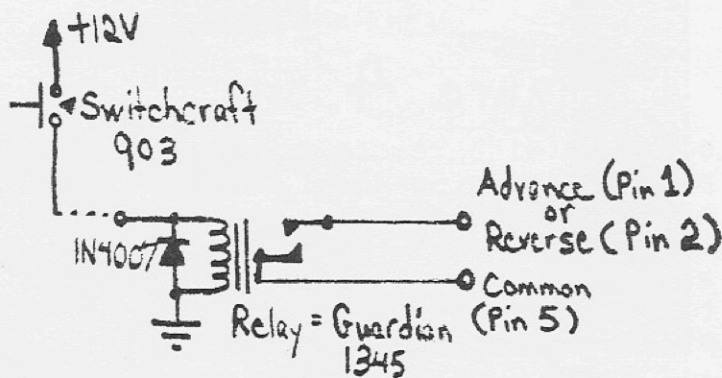


Figure 2.

tors to drive the relays cuts down on the current required to travel through the control lines (22 AWG wire will work fine for all the control circuits presented here). Figure 4 shows focusing (for projectors

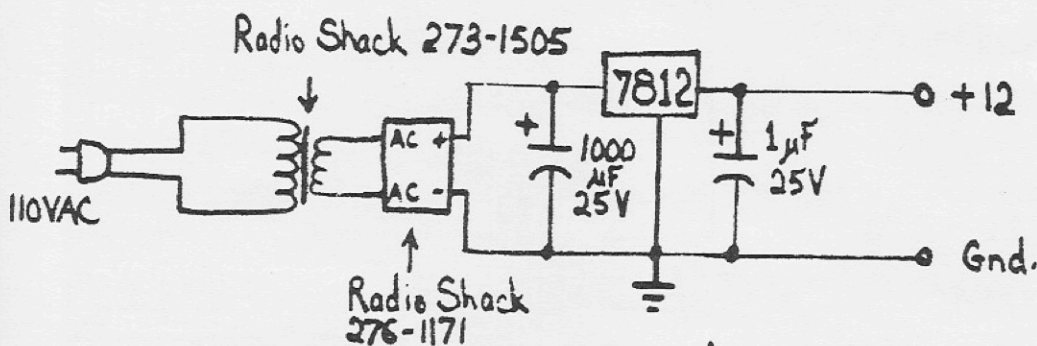


Figure 1.

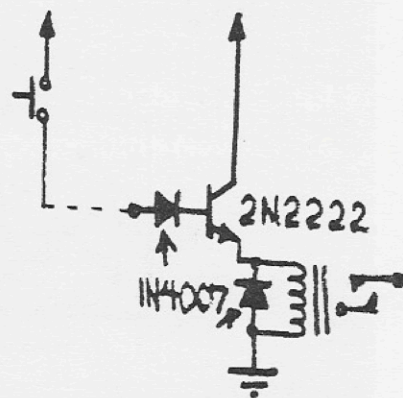


Figure 3.



Carousel controls using low voltage DC are fun to use and easy to automate (the subject of a future article) and can give you the true nirvana of 7-pin gladness.

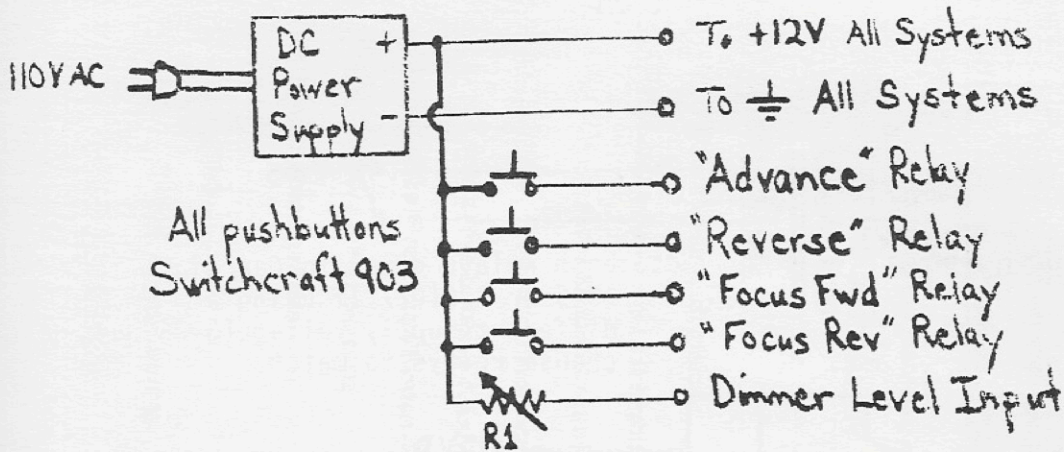
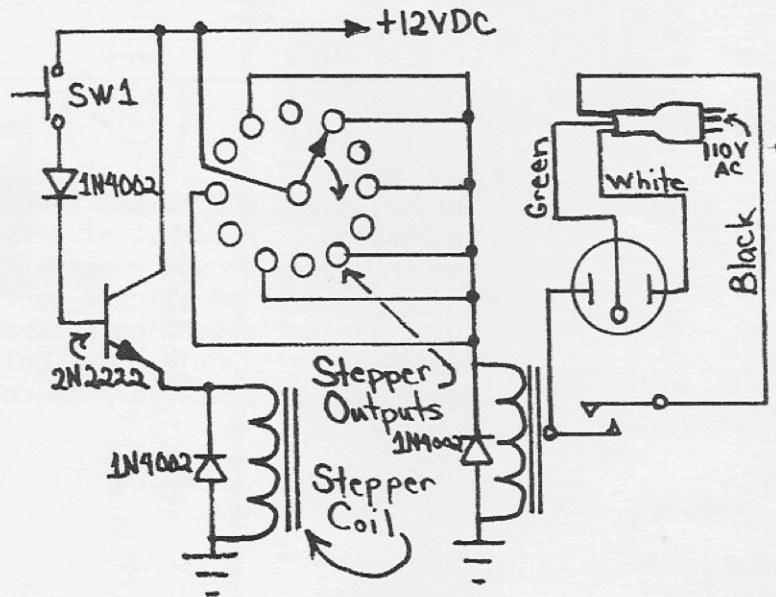


Figure 6.



DR. STRANGE'S SEPA  
CIRCUITS CLINIC, etc.

LATCHING ON-OFF CIRCUIT

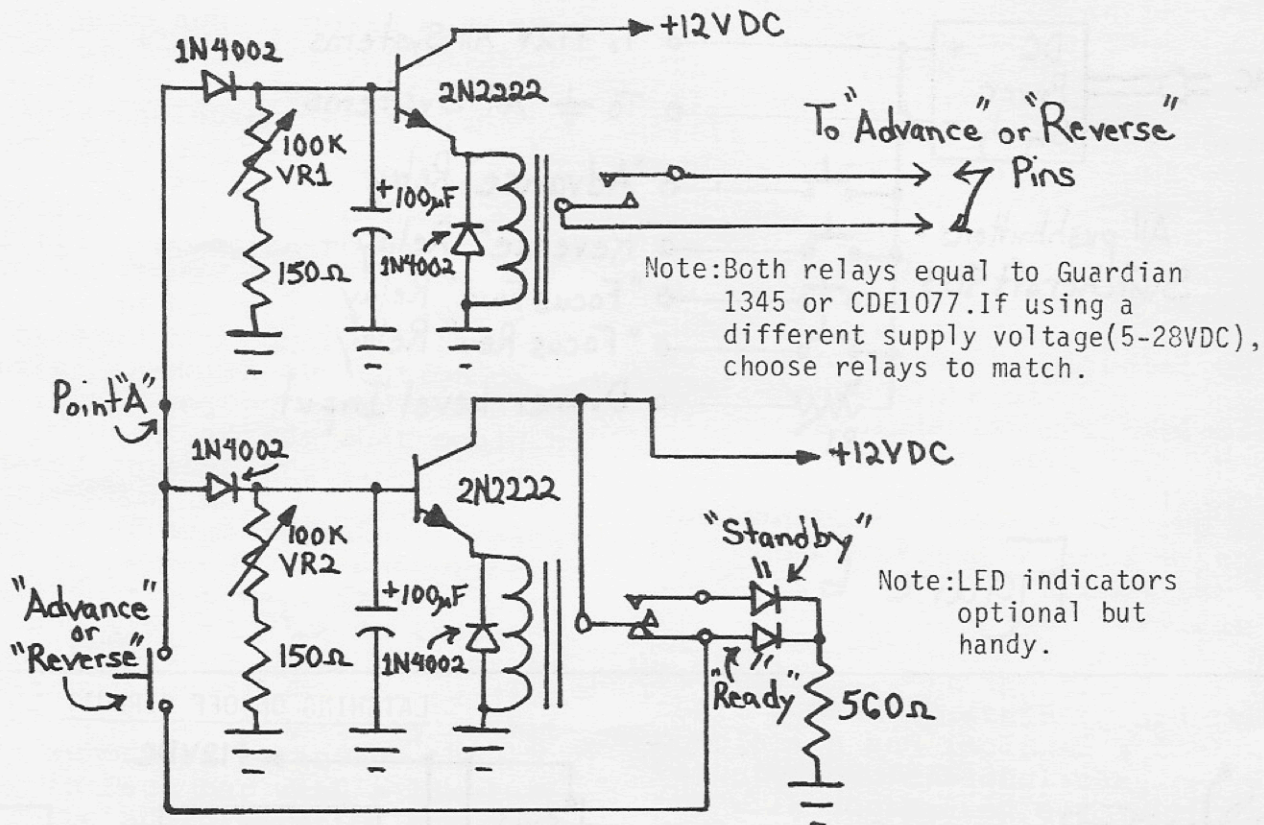


Note: Relay=Guardian 1345 or CDE1077 (use higher current relay to switch more than 300W)

Note: SW1 may be a momentary switch or the output of a slide programmer (makes pulses fairly short). Each new pulse will turn the load on or off depending on its previous state. Stepping relay is Guardian 705-12P-12D.

This column is written by Joe Hopkins who is now the Technical Director at the Bishop Planetarium, Bradenton, Florida. If you have any questions concerning these circuits, give Joe a call and he will be glad to help you. If you have any requests for future circuits, let Joe know.

## DOUBLE-PULSE LOCKOUT



How to use circuit: Adjust VR1 to set length of pulse needed; adjust VR2 to set length of time activating pushbutton is held out of circuit. Circuit is useful for any function which needs a specific pulse length and which must be allowed to finish before a second pulse is sent (reversing a carousel projector is a good example). The circuit above point "A" may be repeated as many times as necessary to control a group of projectors.

## A CALL FOR CONFERENCE INVITATIONS FOR 1984

As you all probably know, the SEPA 1983 Conference will be held at the new planetarium under construction in Richmond, Virginia. We will be voting during this summer conference at the Bay's Mountain Planetarium on where we would like to hold our 1984 conference. Please notify your President, Mike Ryan, of your intention as soon as possible.



This issue of Southern Skies marks the beginning of the second year of its revival. It has been fun and I have had a lot of help from you (its a good thing I don't mind twisting arms). I look forward to this years issues of Southern Skies and hope that each of you will respond when I call upon you for help.

As you will notice, I have made the decision to no longer use black and white photographs. I will continue using line drawings. The cost of reproducing black and white photographs as opposed to the quality reproducing we get is too expensive. At this time, SEPA cannot afford the luxury of better quality printing. I believe, however, that the news letter in this form will still be completely acceptable.

I must apologize for this issue being late. I have been extremely busy with many things and could not put as much time into the news letter as I wanted to. I will do my best to see that future issues are on time.

If you have any comments, good or bad, please let me know. My address is at the bottom of the page.

Jack

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