THE PUG PERIPHERAL

THE MONTHLY NEWSLETTER OF THE
PITTSBURGH USERS GROUP
FEBRUARY, 1989

8902

CLUB NEWS BY GARY TAYLOR

NOMINATIONS FOR OFFICERS WILL BE HELD AT THE FEBRUARY MEETING. ALL OFFICES ARE UP FOR ELECTION. EACH OFFICE IS ELECTED TO SERVE ONE YEAR AND THOSE ELECTED WILL RECEIVE ONE YEAR FREE MEMBERSHIP TO THE PITTSBURGH USER'S GROUP. IF YOU WOULD LIKE TO SERVE YOUR CLUB THIS COMING YEAR PLEASE SEE OR CALL ONE OF THE OFFICERS TO GET YOUR NAME PLACED IN NOMINATION.

THIS MONTH WE WILL BE HOSTING A CONSOLE CLEANING CLASS. JOHN WILLFORTH WILL BE IN ATTENDANCE TO HELP DISASSEMBLE, CLEAN, AND REASSEMBLE YOUR CONSOLE AND EXTENDED BASIC MODULE. IF YOU ARE EXPERIENCING COMPUTER LOCK UP BECAUSE OF DIRTY CONTACTS YOU DON'T WANT TO MISS THIS CLASS. JOHN WILL SHOW YOU THE PROPER METHOD FOR CLEANING ALL THE CONTACTS AND GIVE YOU POINTERS ON HOW TO KEEP THEM CLEAN. JOHN'S CLASS WILL BEGIN AT 4:30.

THE DECEMBER ISSUE OF THE PUG PERIPHERAL CONTAINED AN ARTICLE ABOUT THE "ZENO BOARD" THAT IS UNDER DEVELOPMENT. ERIC SAYS THAT HE HAS HAD MANY INQUIRIES AND THAT IT LOOKS LIKE THE BOARD IS GOING INTO PRODUCTION! THE "ZENO BOARD" WILL FIT INSIDE THE CONSOLE AND ALLOW YOU TO PLACE 32K, A CLOCK, X-BASIC, SPEECH, AND A PARALLEL PORT ALL WITHIN THE CONSOLE ITSELF. ERIC TELLS ME THAT THE FIRST BOARDS SHOULD BE AVAILABLE SOMETIME IN APRIL FOR AROUND $15. IF YOU WANT MORE DETAILS WRITE TO ERIC ZENO, 414 HIGHLAND ROAD, PGH, PA 15235.

I WILL BE STARTING A BASIC BASIC CLASS THIS MONTH. THIS IS A TRUE BEGINNER'S CLASS AND WILL BE GEARED FOR THE PERSON WHO JUST GOT THEIR COMPUTER (AT THE LATEST FLEA MARKET OF COURSE) AND WANT TO KNOW WHAT THEY CAN DO WITH IT. I WILL BEGIN WITH THE "TEACH YOURSELF BASIC" PROGRAMS THAT WERE RELEASED BY TEXAS INSTRUMENTS. THERE ARE 10 LESSONS IN THIS EDUCATION PACKAGE AND I WILL BE GOING THROUGH EACH ONE OF THEM. THIS WILL BE FOLLOWED UP WITH THE 8 LESSONS THAT COMPRISE THE "TEACH YOURSELF EXTENDED BASIC" SERIES. SO IF YOU HAVE BEEN WANTING TO START PROGRAMING THE COMPUTER YOURSELF AND DIDN'T THINK YOU COULD START INTO THIS MATERIAL ALL BY YOUR LONESOME THIS IS THE CLASS FOR YOU. THE CLASS WILL BEGIN AT 3:00. WHILE I WILL BE USING THE DISK VERSIONS OF THESE PROGRAMS, THEY ARE AVAILABLE ON TAPE AND MUCH OF WHAT I WILL BE SHOWING YOU CAN BE USED ON A BARE CONSOLE.

GENEOLOGY ANYONE?

JAN KNAPP HAS PRODUCED ANOTHER FAIRWARE OFFERING CALLED TI-WRITER GENEALOGICAL HELPER. THIS IS NEARLY A FULL DISK OF TI-WRITER TEMPLATES THAT ARE USED TO HELP YOU ORGANIZE THE DATA YOU ACCUMULATE WHILE BUILDING YOUR GENEALOGY. INCLUDED ARE HELPFUL HINTS AND TIPS THAT JAN HAS DEVELOPED BY TALKING WITH PROFESSIONAL GENEALOGIST. SHE INCLUDES SUGGESTIONS ON CREATING DATABASE FILE WITH SEVERAL EXAMPLES OF THE INFORMATION THAT WOULD BE IN THE FILES. ALSO INCLUDED ARE THREE PAGES OF NAMES AND ADDRESSES OF VARIOUS ORGANIZATIONS THAT CAN SUPPLY GENEALOGICAL INFORMATION, BEGINNING WITH THE NATIONAL ARCHIVES AND ENDING WITH THE WYOMING STATE ARCHIVES. THIS DISK WILL BE PLACED IN OUR LIBRARY THIS MONTH WITH SEVERAL COPIES ON HAND AT THE MEETING.

OUR FRIENDS FROM THE LIMA USER'S GROUP HAVE DONE IT AGAIN. I RECEIVED A DISK IN THE MAIL FROM CHARLES GOOD WITH THE LATEST VERSION OF FUNNELWEB, RELEASE 4.13. INCLUDED WITH THIS RELEASE ARE TWO SEPARATE FILES THAT CAN REPLACE THE ORIGINAL ED AND EE FILES AND PROVIDE 80 COLUMN SUPPORT FOR THE NEW AVPC 80 COLUMN CARD. CAN YOU BELIEVE IT? 80 COLUMN WORD PROCESSING ON YOUR TI-99/4A! IT WORKS GREAT ON THE GENEVE TOO! THERE WAS SOME CONCERN THAT IT MAY NOT WORK WITH THE GENEVE 9640 BUT I ASSURE YOU THAT IT WORKS FINE. ALTHOUGH THERE SEEMS TO BE A PROBLEM WITH THE FORMATTER FUNCTIONS

HAPPY VALENTINES DAY

$5.00. There will be a contingent from Pittsburgh going so if you are interested in sharing the transportation then speak up.

A response to " A Proposal for Newsletter Exchange' by Dave Tramovich.

Dave Tramovich has made a proposal to alleviate expenses of mailing out newsletters to other user groups. His idea is to upload his newletter to one of the electronic information networks instead of mailing it out to 60 user groups around the country, thus saving the 25 cent postage each month, 60 * 25 = 15.00, and replacing it with a 67 cent upload charge, saving 14.33.

I applaud Dave's creative effort to save money for all the user groups. The Pittsburgh User's Group sends out 142 newsletter to other user groups. It is the most expensive budget item for the club. It costs us approximately 100.00 dollars a month for printing and another 40.00 per month postage. We use bulk mail so it cost 16.7 cents per copy to mail. We receive approximately 120 newsletters from all over the world in return. This communication is very important to our club. It lets us know of all the developments for the TI-99/4A across the country without which the club would be much poorer. I too wish we could reduce the expense of this item but it is not that simple.

We will not be participating in this type of exchange at this time for the following reasons. Many newsletters are not written with TI-writer but are produced on other machines that do not have modems attached for communications. Many articles that we publish are not received as files but are entire pages already printed out. These would have to be retyped by an already overworked editor. The hardware articles with their accompanying sketches and pictures would be lost as would most of the graphics. Further, If I attempted to download 120 12-pages newsletters at the 67 cents mentioned by Dave it would cost 120 * 67 = 90.40 just to get the information on disk and then it would still have to be printed out. We would still incur the cost of printing and distributing our newsletters to our members, which fluctuates around 100. But we would lose the bulk mailing privilege as the post office requires a minimum of 200 pieces per mailing and we would have to pay 25 cent per piece instead.

Many clubs have resorted to sending out their newsletter less frequently or sending them out two at a time. Some are putting them on diskette and sending them out quarterly. We appreciate receiving the newsletters from whatever source or method you choose. We are eager to exchange ideas, projects, programs, or methods with all of the clubs. We will continue to send our newsletter as before. For those clubs that do not have a newsletter of their own to exchange we encourage you to join our club to offset the cost of mailing the newsletter to you. But nevertheless, we will continue to send a copy to you if you will send us a note that your club still meets regularly. We intend to continue to support the TI in this fashion until we can no longer afford it. I figure that should be around the year 2000!.

locking up the Geneve after printing one file. But I am sure that this can be worked out. It will also be available at the February meeting. It comes with new docs completely updated for release 4.13.

But that wasn't the only thing on the disk that Charles sent. Included was a copy of a program that will locate a file on cassette! That's right. This program is written entirely in console basic and will search a cassette tape for a specific file. I hope that Audrey has space in this months newsletter so that we can reprint the software review by Charles Good on this program. The program is called CS1*FINDEX and it has been added to our library. Susan will have several copies of this program at the next meeting too.

THANKS to CHARLES GOOD and the LIMA OHIO USER'S GROUP.

Educational Software

In an effort to continue with demonstrations and reviews of educational software, I have obtained a catalog of the disks in our library and will attempt to review some of the better ones in the newsletter. Last month I tried to show you the diversity of the material available for our computer. I was able to cover topics from basic arithmetic and grammar to astronomy and geography in a short period of time. I have received a disk from Jim Peterson, the Tigercub, containing some of his copywrited programs and a few public domain programs as well. The public domain programs will be added to our library while his copywrited programs will be demonstrated and you will able to order directly from him. THANKS to JIM for continuing to support our orphan.

Jim has also provided us with an article that he wrote on educational software that we will be publishing in the future.

STAR NX-1000 OWNERS

Have you ever turned off your console and had your printer start to advance the paper? Well this is caused by a faulty Eprom in the NX-1000 printer itself. Star Micronics will replace the Eprom for free!. All you have to do is tell them that you are a TI-99/4A user and you understand they have a fix for your printer. They will send you a new Eprom, version 1.5 LFTI, for you to install in your printer. It is simple to do and all they ask is that you return the old Eprom to them within 30 days. Otherwise they will bill you for $30.00. You can write them at Star Micronics, #3 Oldfield, Irvine, CA. 92718 or you can call them at (714)768-7203. They also have an 800 number but I can't find it. It might be published in Computer Shopper, That's where I would look. They sent me the new Eprom and it works great, it took about 7 days via UPS for me to get it. So give them a call. Thanks to Marty Kroll for telling us about this on the BBS a couple of weeks ago.

FAIRES

The TI WEST-FEST should be over by the time you get this newsletter and I hope it was a great success. The next faire is going to be the TICOFF '89 to be held on Saturday, March 18, 1989 in Roselle Park, New Jersey. Walk in tickets are

TI ARTIST...for the beginner-Vol. 1

by Don McCalla - Evelyn Pacinda

If you are slipping TI Artist into disk drive #1 for the first time, you will probably want to do more than just draw squiggles on the monitor screen. Thank God TI Artist is XB Autoload! Just press Enter at the Intro screen for the main menu. You will most likely want to PRINT something productive that says, ""I DID Something!" To do that, you will need to know the difference between Fonts, Slides, Instances, and Pictures.

A Font is usually an Enhanced character set which is accessed by choosing #2 at the main menu-Enhancements. Slides and Instances are also accessed here, using the same option. Slides are usually portions of your working picture, not to be confused with a slide show. You define the slide. We'll discuss slides in more detail later (when we figure them out well enough). Instances are pre-made pictures which vary in size. There are plenty of them available on the market. We'll deal with them shortly. Pictures are pre-made pictures which are saved in 2 portions; they are actually 2 programs which end in "_C" for the color portion and "_P" for the picture portion. Think of the Picture as a backdrop for your smaller figures, which are Instances. Now to the nitty-gritty.

To load Fonts, use option #2 (Enhancements) at the Main menu. You will next see a set of boxes with electronic squiggles bordering the screen-these are Slides. Ignore them for the moment. Go to Alpha Numeric Entry, using Joystick #1 or by typing the letter "A". The next menu requires an input "1" to load character Font. Pressing "1" will cause the cursor to move to the bottom of the screen, at: Load Filename DSK2._____. Input the filename wanted (for fonts, it is a DV80 file which ends in "_F". Ignore the "_F" when typing in the filename. DSK2. is accessed, the font set is loaded into memory, and you must press "2" for "Type Text on Screen." The next prompt is "Should characters be Outlined? "N" is the default, press "Y" if you just want the outline of the character on the screen, press or leave "N" if you want the whole letter to be present. If you're only using one drive, or if you don't have an extra disk of character fonts, you'll have to access DSK1.

You can only enter up to one line of text at a time, sometimes even less if you have loaded a large character font. You will then see a blank screen with a flashing box which is self-centered-this is your text! Press "T" to test the placement of your text. It is moveable using the arrow keys or Joystick #1. Be careful using the joystick, because fire button (or Enter on the keyboard) will set your text in place. The blinking box reappears so that you may re-enter the same text a number of times.

To enter another text string, use spacebar and reload thru the Alpha-Numeric screen. At the Enhancements screen, you can hit the space bar to see your working picture. You can access your picture in this manner thru most of the menu screens, even after hitting FCTN Quit to return to the TI Artist Main Menu (Boot) screen.

Now that we have text, we can load something to surround it. To load an Instance, access Slides box (letter "S" or move cursor to spot with Joystick #1). The Slides menu has 7 options; #6 loads an Instance. An Instance is a DV80 file ending in "_I". Add disk # and file name at bottom of screen-don't add "_I" when prompted. Beware: if you misspell the file name, the screen says "Device Error! Task Aborted." It's not the computer, just the user! Once the Instance is obtained, a blinking box appears on the screen the approximate size of the loaded Instance. Joystick #1 or arrow keys will move the box around the screen to the chosen spot. Again, "T" will test placement, and Fire or Enter will lock in place. Unlike the Fonts, an Instance must be reloaded each time it is used. It can be duplicated using other options which we will discuss in later segments.

To Print your picture, press FCTN Quit to return to main Boot menu. Option #1 takes you to the TI Artist Function screen (the pretty one with all the little boxes and letters). Use Joystick or press "C" for Hard Copy. Next, choose the appropriate printer type. Epson works with the Star printers. At prompt, Enter printer device name: PIO.CR.LF is default. Density factor controls width of picture, not just darkness of print, so try "1", which is the default, first. Magnification factor controls the size of the picture, with "1" being the default. Increasing the number increases the size of the picture. Line spacing controls the height of the picture, as in vertical characters per inch. "8" is the default, so try that first. After you get your first picture, play around with the print options-combinations can be very interesting, although not necessarily desirable!

That's all for this month. Next month we'll delve into Slides, and explain some of the Function menu options.

FORTH TUTORIAL VI

By: Lutz Winkler

FORTH TO YOU, TOO! SESSION 6

My original intention had been to write a few tutorials for our local 99ers to get them on their way with Forth. That seemed easier than to explain the basics over and over again. And besides, what I had been explaining had already appeared in condensed form in Miller's "The Smart Programmer" anyway. If some questions came up, they were easily resolved at our meetings or by a local phone call. Now that these tutorials have been posted on COMPU-SERVE I receive calls from all over and it looks as if there are a number of details yet to cover.

The question being posed most frequently indicates that some of you are not sure about Forth screens and

programs. So let's clear this up:

Think of screens simply as a means to record programs, which are, however, not limited to a single screen but may occupy as many screens as necessary. As an example, let's assume the following: You have made a copy of the TI-Forth disk, booted -EDITOR, -COPY, -PRINT AND -BSAVE because these will be the only ones needed for the program you are going to write. You BSAVEd your autoboot starting on screen 22. The autoboot occupies screens 22 through 31. Screens 32 to 89 are now available for your program screens. (Remember, if you follow the ' TASK 22 BSAVE with . (dot) Forth tells you the next available screen after the BSAVE.) The idea is to prepare a working Forth disk with needed load options and then put one or more programs on it. We make the assumption that none of the unbooted load options will ever be needed for the programs on this disk, and therefore we can utilize the screens they occupy. Some people seem to have the idea that one Forth disk can do it all. That simply is impossible. You can have a collection of short routines on a disk but sooner or later you will run out of room if you try to maintain the original load option screens, unless you have two disk drives and put all your routines on a disk in drive 2.

The screens of a program are linked with --> (load next screen) word which is placed at the very end of the screen. In this manner only nn LOAD is necessary to load an entire program (nn=number of the beginning screen). You will not find --> in Brodie's STARTING FORTH, however, it is part of the Controlled Reference Word Set of Forth-83.

The line numbers are for reference only. They are not to be equated with BASIC line numbers. (Line numbers are superfluous in Forth because there is no GOTO.) However, words are compiled sequentially, i.e., starting with the first word of the first program screen and continuing down each screen line-by-line to the very last word of the last screen. Each word is added to the dictionary provided that any words within its definition can be found there. For example, : INVENTORY IN-STORE IN-WAREHOUSE + ; will not compile unless both IN-STORE and IN-WAREHOUSE have been compiled previously. (For advanced users who should not be reading this: Yes, this is not quite true, but remember that this is for beginners.) For reasons which I don't understand it seems to be an obsession with some Forth programmers to cram their screens with utter disregard for legibility and clarity. If a program might take 9 screens they use every means to condense it to one less. I can see placing two short words on one line if (and that is a capital IF) one additional line would make it go into the next screen. But otherwise it is not good Forth style and it certainly does not make it easy for a beginning student to understand the program. In general, make it a practice to start words at the beginning of a line, indent the following lines if it takes more than one line for the definition. In long programs I even place the words being defined on each screen within the parentheses on line 0 so that I can find them easily with INDEX.

The normal number base (the one you're out in once Forth is booted) is DECIMAL. Invoke HEX and you can enter your parameters in hexadecimal numbers, but do not use > to designate them as such. You can also use binary numbers, simply put your system in that base with 2 BASE ! or better yet, define a nice word like : BIN 2 BASE ! ; I also define : DEC 10 BASE ! ; so I can go from base to base by entering only 3-letter words. In this manner you can use Forth as a handy-dandy conversion calculator. nnn HEX . will display a decimal number converted to hex. Just don't forget to reset the base with either DECIMAL (or DEC as above). In the same manner you can use any number base (Octal by 8 BASE ! etc.). Forth will do the rest. Note: HEX is *usually* invoked within programs when puting parameters for character or sprite definitions on the stack.

Some of you report encountering problems with the words AT and TOP. They are not standard TI-Forth words. Instead John J. Volk, THE elder statesman of TI-Forth whose DATA Disks have been distributed nation-wide, originated them to save wear and tear on his typing fingers (just kidding, John). They should be part of everyone's dictionary:

```
: AT GOTOXY ; (AT is a lot shorter than GOTOXY)
: TOP CLS 0 0 AT ; (same as Miller's PAGE)
```

Time for one more question: How do I get out of Forth? Well, that depends. If you are through for the day, just pull out your disk (you might enter FLUSH first to make sure there are no loose ends in the buffers) and turn off your system. If you are going to continue, enter MON. This will return you to the TI color bar screen.

T. I. WRITER (Part 13)

Stan Katzman

The following is a master file that I used to print out a chemistry laboratory manual that I wrote. Kindly notice that I have all the formatting commands plus all the files in the order that I want them printed out.

```
.AD
.FI
.HE                                        %
.LM 6
.RM 70
.IN +5
.TL 124:27,109,4,134
.TL 123:27,83,49
.TL 125:27,84
.TL 91:27,83,48
.PL 60
.IF DSK2.LABNTBK
.IF DSK2.STOIC
.IF DSK2.HAND
.IF DSK2.QUALITY
```

```
.IF DSK2.APP
.IF DSK2.HEAT
.IF DSK2.MELTING
.IF DSK2.DISTIL
.IF DSK2.CRYST
.IF DSK2.INFRED
.IF DSK2.NMR
.IF DSK2.SEPFUN
.IF DSK2.DRYING
.IF DSK2.BUTENE
.IF DSK2.VPC
.IF DSK2.KER
.IF DSK2.NITBENZ
.IF DSK2.BROMBENZ
.IF DSK2.CRAFTS
.IF DSK2.ANILINE
.IF DSK2.NABH
.IF DSK2.ROTATION
.IF DSK2.BUTBROM
.IF DSK2.CYCHEX
.IF DSK2.VALERIC
.IF DSK2.BUTACE
.IF DSK2.BENZOIC
.IF DSK2.METHBENZ
.IF DSK2.MNBENZ
.IF DSK2.MDICHLBENZ
.IF DSK2.DIELS
.IF DSK2.ALDOL
.IF DSK2.MUT
.IF DSK2.SUG
```

MULTIPLAN PART 14
By Audrey Bucher

Many times when I'm entering data on a MP spreadsheet, I have several items to go into one cell. An example would be the food category in my budget spreadsheet. I always keep my calculator near the computer and when I have several entries for one cell, I quickly add them up on the calculator and enter the total. NO MORE. I read this neat hint in the SUDBURY 99'ers Newsletter....Why not let Multiplan do the work for me. Select VALUE and then enter 5.67+4.32+9.09, then ENTER. Multiplan will give the total, and when you highlight that area again, your formula is still there.(5.67+4.32+9.09).

No one in their group was aware that you could add figures in one cell. (Obviously I never thought of it either) They tried all the math functions (*-+/) and they worked. Give (100+50)-(50-25) a try. It works.

So if you are entering data and you have more than one entry in a particular cell, then let MP do the work for you. Just remember to choose "VALUE".

Isn't it great how we can learn from each other. I have an idea that perhaps may be beneficial to all of us. How about bringing examples of some of the spreadsheets you use to the meeting and during class time we can share the ideas. I'm sure each and every one of you have ideas that others wouldn't think of. Just last month, Herb was showing me his latest project for MP and I had an idea that he may want to incorporate into it.

So how about it. Bring some files and possibly some printouts of some of your spreadsheets. That's what our group is all about....sharing.

FROM THE MAILBOX

1.TI WRITER TIP from Southwest 99'ers

TI Writer includes a flexible formatting command for indenting. A companion, but less often used procedure is OUTDENTING. In writing a paper, a usual indenting formatting command might look like this,

"LM7;IN12;RM71"

To create a different effect, try outdenting the first line of a paragraph by using the following command,

"LM12;IN7;RM71"

The left margin and indent settings are reversed causing the first line of every paragraph to begin at column 7. Subsequent lines will begin at column 12.

Outdenting is useful when listing a variety of subjects, along with some textual information about each subject. Typing the outdented text in bold or double strike type will emphasize the outdenting. Sometimes the bold type command causes the printer to indent an extra space. If this occurs, change the .IN to 6 instead of 7.

2. TELCO HINT from Sudbury 99'ers

Talks about the use of Function . (period) to put a dividing line at bottom of screen so you can type text here and actually see what you have typed before sending it out in conference. The article goes on to say....

I found another use for "Function ." I use it to log on to Compuserve and Delphi. You can see what you type before you send it. I don't know about you but I always make typing errors especially if I cannot see it.

Another use of "Function ." is when I am on Compuserve. If I want to download a file in a certain data library I usually do a Directory of the Library to see the particular file I want to download. Then I usually browse the file before downloading. Now here is where "Function ." comes in handy. Press FCTN . if you have not done so already. After you see the Directory and see the file you want you press B to get back to the menu screen. There is a time lapse before it gets back to the menu. What I do while I am waiting is to type the filename. You will see that entered at the bottom of the screen. Now when the menu gives you a prompt, just press ENTER and it will send the filename you have typed. It saves you a few seconds. If you use Compuserve and Delphi as much as I do, it will save you a bit of money too.

3. DISK UTILITIES v4.1 TIP from Lima User's Group

Printing out a "DISK REPORT" complete with comments takes a lot of paper, even if you use compressed print. If the disk has a lot of files the DISK REPORT will probably not fit onto the front of the disk envelope. Using "System Setup" and the following special characters will print *your* disk report in compressed, subscript, double strike, and small line feeds. From the "Printer Setup" submenu type "S" next to "Disk Report" and then enter the following "Special Character" code: 1B0F1B53011B330B

You can permanently enter this special character with a sector editor so that it will always be available for instant use. You need the complete documentation, only available to registered DISK UTILITIES owners to tell you where to do the sector editing. The code above works for epson compatable printers.

4. FUNNELWEB v4.1 TIP from the Lima User's Group

Do you have FWB v4.1 stored on a ramdisk designated other than DSK1? If so, when you call up FWB's DM1000 you may have to wait for physical drive #1 to grind away for awhile before DM1000 appears. This access of drive 1 every time you boot FWB's DM1000 can be eliminated. Use FWB's DISK PATCH, or any other sector editor, to display the first sector of the M6 file. Make the display ASCII, and near the beginning of the sector you will see "DSK1.M6". Change this drive number to the ramdisk drive number that actually contains file M6 and your problem is solved. Now, when you select DM1000 from FWB v4.1 it boots instantly.

A CHILD'S FIRST LOOK AT MULTIPLICATION

By Tony Falco
Reprinted from M.U.N.C.H.

"Dad, today I heard someone talk about three times four. What does that mean?"

"Get that jar of pennies in your room and I'll try to show you. Three times four means three fours. Make a row of four pennies. Now two more rows like that one. That's four plus four plus four or twelve. You can see that it is also four rows of three each. Four times three is the same as three times four. Hey, we could do this on the computer."

The program listed below grew out of a conversation much like the one above. I strongly believe that understanding numerical concepts at all levels is aided by, or maybe even only possible with, a physical or mental picture that gives the learner a comfortable and familiar feeling. With this in mind, I try to help my child build a conceptual basis for ideas that tend to become rote with time. With a program that is conceptually sound, the computer's infinite patience provides an ideal means for acquiring insight into basic numerical concepts.

To use the program you pick the highest factor the child is to work with. For example, for products up to 6x6 or 36, pick 6. The program randomly picks problems and displays the problem with an array of asteriks to show the factors to be multiplied. The user types an answer. If wrong he tries again until correct. The format in which the array appears on the screen encourages the child to try repeated additions or, as a last resort, counting. To end the program enter <0> instead of an answer. The interaction between computer and learner is reinforced with speech. I feel this makes a program more friendly and familiar. The TI-994A has been, and continues to be, the only machine for inexpensive, high quality and easy to use speech.

```
10 FOR S=1 TO 14 :: CALL COL
OR(S,2,12) :: NEXT S
20 CALL SCREEN(12) :: CALL C
OLOR(2,2,16) :: CALL CLEAR
30 INPUT "  HIGHEST FACTOR=>
":H
40 RANDOMIZE :: CALL  CLEAR
50 A=INT(H*RND)+1 :: B=INT(H
*RND)+1
60 IF A*B>H*H THEN 50
70 P$=STR$(A)&"x"&STR$(B)&"=
" :: DISPLAY AT (5,12):P$
80 S$=RPT$("*",B)
90 FOR T=1 TO A
100 DISPLAY AT(T+7,14-LEN(S$
)/2):S$ :: NEXT T
110 K=12-LEN(S$)/2+(A>9)
120 DISPLAY AT(8+INT(A/2),K)
SIZE(-2):STR$(A)
130 DISPLAY AT(9+A,13):B
140 ACCEPT AT(5,12+LEN(P$))B
EEP:ANS$
150 IF ANS$="0" OR ANS$="q"
THEN 180
160 IF VAL(ANS$)=A*B THEN R=
R+1 :: CALL SAY("GOOD") :: G
O TO 40
170 CALL SAY("SORRY TRY AGAI
N") :: W=W+1 :: GOTO 140
180 CALL CLEAR :: PRINT :;:;
:;:: PCT=INT(100*R/(R+W)+.5)
190 PRINT "  ":W+R;"TRIED"
200 PRINT "  ":R;"CORRECT"
210 PRINT "  ":PCT;"%"
220 CALL SAY("GOOD BYE")
230 END
```

DISK DRIVES(#6)
by John F. Willforth

Continuing with problems from article #5.....

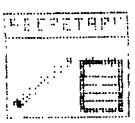
Common problem #6, can't read a diskette that was created quite awhile ago on this same drive. This drive can write and read a new diskette, and the diskette that is now unreadable, is readable on another drive. There are at least two possibilities here. One, the drive is worn out, and with the cost of drives so low, replacement is definitely the most economically feasable option, and two, it is quite probable that the drive needs aligned. Many of the older drives are mechanical nightmares when it comes to wear, but can be rather easily adjusted. I'm not ready to get into alignment just yet. I would recommend that the drive not be used for writing until the problem is analyzed and taken care of, or you may end up with diskettes that have data that will be very difficult to restore when you need it.

Common problem #7, the drive seems to be making a lot of noise and is slower than it should be (compared to a similar drive on the same controller). There is a very common and easy fix for this one if your controller has the capacity to select the STEP RATE for each drive that is connected to it. The TI, however does not, and therefore is set to a very slow STEP RATE in order to accommodate all the slower drives that could be attached. The STEP RATE is the speed that the drive can move from one TRACK (CYLINDER) to another. This is dependent on the electro-mechanical effeciency of the stepping motor and the HEAD mass, as well as the mechanism between the two and the driving curcuits in the logic on the drive logic board. If you have a Corcomp controller for example, you can set the STEP RATE for each drive connected, getting the most effecient speed in each. Comparative testing of a disk that takes awhile to catalog is a good test media, and using it to get the shortest cataloging time will probably fine tune your controller to the respective drives. On the Corcomp this is a jumper setting on the controller card itself. The lower the number, the faster the drive is being asked to step, i. e. :3,6,12,20 or 30 are milli-seconds, 3 would be faster than 6, and 20 would be faster than 30.

Common problem #8, is getting a read or write error on a diskette that was a good diskette that you previously had no problems with, or even a new one out of the bag(box), whichever. After proving that a new diskette and your drive are still working and not at fault, throw the old diskette away. The cost is now so low, that unless you need to try some retrieval methods on the offending diskette, you can't waste your time. It would be good to check the media inside the SHELL (plastic cover that protects the actual disk media) for what might have happened so that you might not make the same mistake again if it is something you did. Rotate the media slowly inside the shell looking for any of a host of flaws, dimples, spots on the surface, scratches either radially or circumferentially (might be a good word), as well as a distorted shell itself. Dimples often occur when inserting the newer diskettes into the drive when the mass of the human arm doesn't stop fast enough if the diskette contacts an obstruction as it enters the drive. The shell buckles, and mechanical forces then create the dimple in the media, and most times the shell shows no evidence. The spots on the disk can be manufacturing flaws, but are most commonly caused by, (and I want to say this delicately) you talking, sneezing, eating or smoking around diskettes, especially when they are not in the envelope or disk drive. The scratches, particularly in a single sided drive, could be caused by the drive itself, and mechanical investigation should be done.

Hint: Since a drive can wear out eventually, and since most of the wear that can happen to a drive is in the area of the CARRIAGE and STEPPING area, you can take steps to setup your diskettes to do a minimum of work everytime you use them. After a diskette has been filled up and you no longer expect to make any changes, and are about to put a write protect tab on it, why not make a copy of it using the FILE-COPY utility in your disk manager. This will serve two ends, first you will benefit every time you catalog the diskette, and it will decrease the amount of head wear. Try a diskette that you have many files on, and just listen to the drive exercise, then do a file-copy of the diskette, and then do a catalog of the new diskette.

Until next month.....



RECAP OF MINUTES FROM PUG MEETING OF JAN. 15TH 1989

Librarian Harper informed us that the Library now has 25 new utility discs and a program called Student Organizer, compliments of our Pres. A 2-disK catalogue of the contents of our Library is available. Cat-lib is necessary to run it.

SYSOP Kelly reported that we had been using System 1.7 but that it had severe problems. We were losing programs and it was not compatible with our Horizon Ram disc. He has gone back to system 1.4.2. There were at the time of his Report 40 current users. Our Sysop advised that we should change our password and I.D. if we our logging on to other Systems.

Pres. Taylor gave his Report:

1.There will be a San Diego Faire in Feb; a Roselle Park Faire in March. 2.Dr. McIlroy's equipment will be auctioned-off by his widow. 3.Pres. Taylor passed around correspondence with hardware and software for sale. 4.Four discs which originated in Italy will be going into our Library. 5.There are 138 TI bulletin boards the World of which he has a list. He will make copies for our members. 6.Teac drives, Model 55BR with automatic selector work fine with the TI/994A. 7.Bud Miller will demo his Horizon Ram disk at the March Mtg.

Continued on Page 10

THE KIDDIE CORNER
by Sue Harper

For kids of all ages - a series of articles on how to get started making your own programs.

Last month we started using color, and this month we will continue with color. First, I have to give you the answers to last month's questions:

1. Write a program that will print HAPPY NEW YEAR and turn the screen magenta.

```
10 CALL CLEAR
20 PRINT "HAPPY NEW YEAR"
30 CALL SCREEN(14)
40 GOTO 40
```

This program will keep going until you press the FCTN key and the number 4 at the same time.

2. Figure out what cyan is.

There are two ways to do this, one is to run a program:

```
10 CALL CLEAR
20 CALL SCREEN(8)
30 GOTO 30
```

3. Write a program that will make the screen blink black, white, black, white.

```
10 CALL CLEAR
20 CALL SCREEN(2)
30 CALL SCREEN(16)
40 CALL SCREEN(2)
50 CALL SCREEN(16)
60 END
```

If you want it to blink forever (or until you stop it) change line 60 to:

```
60 GOTO 20
```

The other way to use color is with the command CALL COLOR. To use this command, you must know a little bit about ACSII codes.

All you really need to know is that every letter, number and symbol on the keyboard has been assigned a number called an ASCII number. These numbers are listed in the back of the book that came with your computer. If you cannot find the book, and want a copy of the list, call me (I'm the librarian) and ask for one. I'll be glad to bring one to the meeting for you.

As you look at the list, you will see that the numbers are grouped into sets. For what we want, the set number is the most important thing.

CALL COLOR is used with three numbers. The first is the set number of the letter you want to color. The second and the third are the foreground and background colors.

Let us assume that you want the screen to be dark red, and a white letter A to show up on the screen. This is the program that will do that:

```
10 CALL CLEAR
20 CALL SCREEN(7)
30 CALL COLOR(5,16,1)
40 PRINT "A"
50 GOTO 50
```

This program will print a capital A in the lower left hand corner of the screen and color it white. The space around the A will be transparent, or clear, and the CALL SCREEN dark red will show through the tranparency.

Think of the A as being inside a box the size of the cursor. The A part will be the foreground, and the part not A is the background. The CALL COLOR statement could be:

```
30 CALL COLOR(5,16,7)
```

The letter A is ASCII number 65, which is in set 5. Small a is ASCII 97, which is in set 9.

Here is a program that will print THE PUG IS GREAT in yellow on a dark blue background. The rest of the screen will stay the usual color. For a challenge, see if you can change it to print your name in your favorite color!

```
10 CALL CLEAR
20 CALL COLOR(5,12,5)
30 CALL COLOR(6,12,5)
40 CALL COLOR(7,12,5) 50 PRINT "THE PUG IS
GREAT"::::::::::
60 GOTO 60
```

FROM THE LIBRARIAN...

My goodness, you folks can keep me busy! The January meeting was quite hectic, with my late arrival! Thanks so much for your patience. Basketball season is almost over!

New this month are the Babuilder, Beaxs, and Gdebug which Gary brought back from San Francisco. For details about them, check CLUB NEWS in the January issue. Also, we have Drednot, which is a Fairware game from Dale Kloes. Some other game files are on the disk, and Gary talked about them at the January meeting. Also we will have the Parfore Golf game, an Extended Basic game from John Wilforth.

Not much new this month to list here, but as always there are always surprises at the meeting that come along after these newsletter articles are submitted. Don't take a chance, come on out to the meeting and check out the library! It won't be the same without ya!

See you at the meeting...

CS1#FINDEX AN AUTOMATIC CASSETTE TAPE PROGRAM LOCATION SYSTEM

a review by Charles Good

This one is for cassette tape users and for those interested in unusual programming techniques. Have you ever wondered if it was possible to mark with software the position of a specific program on a cassette tape full of many programs and then have the computer search the tape from the beginning until the specific desired program is found? TI did once develop such a system for its 99/8 computer, but TI's WAFERTAPE drive was never released. Coleco ADAM computers successfully use such a system. Not so for the TI99/4A, according to many well respected commentators. I have read again and again in our exchange newsletters expert comment to the effect that with the TI there is no way to automatically, under software control, advance a long cassette tape to the exact physical location where a program starts. Well....., way back as early as 1983 Joseph E. Bartlm of Parish NY wrote a TI BASIC program that does this for the TI! I recently acquired a copy 1985 update of Joe's CS1#FINDEX program (still entirely in TI BASIC with no assembly routines) and after removing a few bugs I am quite impressed with capability of this software.

CS1#FINDEX will do its stuff even if you don't have a printed list of which programs are on a program tape, even if you are using a tape recorder that does not have a numerical tape counter, and even if you are using a tape recorder that is not automatically controlled on/off by the 99/4A. CS1#FINDEX finds semiautomatically the exact location of a program on a long tape. The manual tape recorder operations required of the user are all prompted from the screen. If you are using a TI compatible recorder, CS1#FINDEX will advance the tape to your program's location after you press fast forward, and then automatically stop the tape. If you are using a tape recorder that the TI cannot automatically turn on and off, CS1#FINDEX will turn the screen from green to yellow and finally to red to indicate when you should manually press cassette STOP once the location of your program has been reached. Neat!

With CS1#FINDEX you can create a catalog of up to 10 programs you want to put on one side of a C60 tape and put this catalog at the beginning of the tape. The catalog includes program name (up to 12 characters with spaces anywhere), and there is also provision for catalog to display a 12 character comment for each of the 10 programs. You can then put up to 10 programs onto the tape, with CS1#FINDEX advancing the tape recorder to the corract tape location where you should SAVE CS1 each program. It is necessary to reload CS1#FINDEX for each of the programs you put on the tape. Thus, users with only a console/cassette system will appreciate the fact that CS1#FINDEX is designed to be small enough to load into the MINIMEMORY module with SAVE MINIMEM. Then each time you need to load CS1#FINDEX, all you do is type OLD MINIMEM, and CS1#FINDEX boots in a few seconds. Otherwise it takes about 90 seconds to load CS1#FINDEX from tape.

Later, when you want to use the tape you load CS1#FINDEX into the computer and then load the tape's catalog from CS1#FINDEX. From the catalog display you select the number of the desired program on the tape. You are then instructed to rewind the tape to the beginning and press FAST FORWARD. CS1#FINDEX then advances the tape to the program's location, automatically stops the tape if you are using a TI compatible recorder, displays the name of your program on the screen, and informs you this program has been located. Then CS1#FINDEX BREAKs to command mode and allows you to load your program in the normal way by typing OLD CS1 and following all the usual screen instructions, except that you DO NOT again "rewind cassette tape". CS1#FINDEX can easily be modified in extended basic to load the located tape program into the computer from within CS1#FINDEX rather than from command mode. Change line 1770 to read RUN "CS1".

If you already have a printed list of each program on the tape and in which order the programs occur, you can bypass the catalog loading procedure. When you RUN CS1#FINDEX your first option is "LOCATION SEARCH (Y/N)". From here you can use CS1#FINDEX to locate the first or second or third, etc, program on the tape without using time to boot the catalog.

What's the secret? How does CS1#FINDEX using only TI BASIC with no assembly routines do what all the experts say can't be done? Have you ever noticed how the tape recorder behaves when you read or write tape serial FILES (as opposed to PROGRAMS)? The recorder starts, reads in or writes what I presume to be a file header, then stops. Then the recorder starts again and reads or writes the first record and then stops. Then the recorder starts again and reads or writes the second record and then stops, etc, etc. The total number of start/stop cycles equals the number of records plus one. The computer controls the turning on and off of the tape recorder motor and IT DOESN"T MATTER TO THE COMPUTER IF THE RECORDER IS SET FOR *PLAY* OR FOR *FAST FORWARD*. When searching for a program, CS1#FINDEX writes a false file to the tape, turning the tape recorder motor on and off several times as this file is written. The tape recorder is set for FAST FORWARD rather than for RECORD as this file is written, so the tape never receives any data. The computer cannot directly sense that the tape is not getting any data, so the computer continues to turn the recorder motor on and off as it writes its fake file to the tape. When turned on, the tape advances very rapidly because the recorder is set for FAST FORWARD. A tape file designed to write up to 10 records with a record length of 192 will go through up to 11 start/stop sequences on a C60 tape before the tape is completely wound up on the take up reel. This is how CS1#FINDEX locates physical blocks of tape space in which to insert programs, and can later find a specific program located at any one of these physical blocks of tape space. The first block (corresponding to the false file's header) is where the catalog is stored, and the next 10 blocks (each

corresponding to a false file record) are where the programs are stored. Enough space is included in each of the program storage blocks to store the largest possible tape PROGRAM.

LIMITATIONS: 1--You can't use CS1$FINDEX with already existing program filled tapes. The spacing of the programs on the tape won't be right. You need to load programs onto your program storage cassette tapes using CS1$FINDEX. 2--Problems may occur if different tape recorders are used to store and later play programs. If the FAST FORWARD speed of the two recorders differs very much CS1$FINDEX will not correctly find the location of the desired program. 3--There is only room for a short program in the last (10th) program block before the tape runs out.

The author of CS1$FINDEX has written some rather wordy documentation files to explain the use of CS1$FINDEX. These files are in PROGRAM format so that they can be loaded from tape and read by console/cassette-only users. In general most users can play around with the program and figure out how to use it without these docs. A sample tape program finding catalog is printed below as is the CS1$FINDEX program listing (checksums added using EZ-KEYS PLUS) with permission of the author Joseph E. Bartle. It is released to the TI community as FAIRWARE. If you like it, send whatever you think it is worth to Joe at the address in the REM statements at the beginning of the program. Joe has other fairware offerings. Write or call him for details. User groups, not individuals, may obtain a copy of CS1$FINDEX and the above mentioned doc files by sending a disk and paid return mailer to the Lima User Group, P.O. Box 647, Venedocia OH 45894

SAMPLE FINDEX CASSETTE CATALOG

```
    CATALOG
NUM     PROGRAMS
  1 * 3D TICTACTOE
  2 * BASEBALLSTAT
  3 * DRAW--------
  4 * FUN HOUSE___
  5 * MEMORY JOB--
  6 * SPELL QUIZ__
  7 * GOLFHANDICAP
  8 * LIGHT YEARS-
  9 * PHOTO DIARY-
 10 * ------------
      REMARKS!
 11 R TIB---------
 12 R TIB/DATAFILE
 13 R TIB TEACHING
 14 R XB/JS OPTION
 15 R TIB/DATAFILE
 16 R TIN/DATAFILE
 17 R TIB---------
 18 R TIB---------
 19 R TIB---------
 20 R ------------
```

EDITOR'S NOTE:

The previous review of CS1$FINDEX is a reprint from the newsletter of the Lima Users' Group. Space did not permit printing of the program listing. However it will be printed in next month's newsletter and a copy will be placed in our cassette library.

MADDENING GAME

Quote: "Try this little 6 line game. The chances are, it will try you. You need joysticks. Enjoy."

```
110 DEF F=(RND-.5)20 :: CALL
CLEAR :: CALL SPRITE(#1,48,5
,192,1,#2,42,7,96,128,R,R) :
: J=7
120 CALL JOYST(1,X,Y) :: GOS
UB 140 :: U=U+X :: V=V+Y ::
CALL MOTION(#1,-V,U) :: GOSU
B 140 :: S=S+1 ::
122 DISPLAY AT(24,2):S :: I=
I+1 :: CALL DISTANCE(#1,#2,D
) :: CALL SOUND(-10,SQR(D)+1
10,4) :: GOSUB 140
125 J=J+1 :: CALL SCREEN(J)
:: IF J=12 THEN J=7
130 GOSUB 140 :: IF I=10 THE
N I=0 :: CALL MOTION(#2,R,R)
:: GOTO 120 ELSE GOTO 120
140 CALL COINC(ALL,C) :: IF
C THEN STOP ELSE RETURN
```

WELCOME

The PUG would like to extend a warm welcome to our newest member....Ray Wallis. We would also like to convey our continued welcome to John Drennen, Bill Herman, Tom Krchmar, Walt Niedziela, Cliff Pepper and John Yankel who have recently renewed their memberships.

Minutes (continued from page 7)

He will have prices, answer questions etc.

OLD BUSINESS:

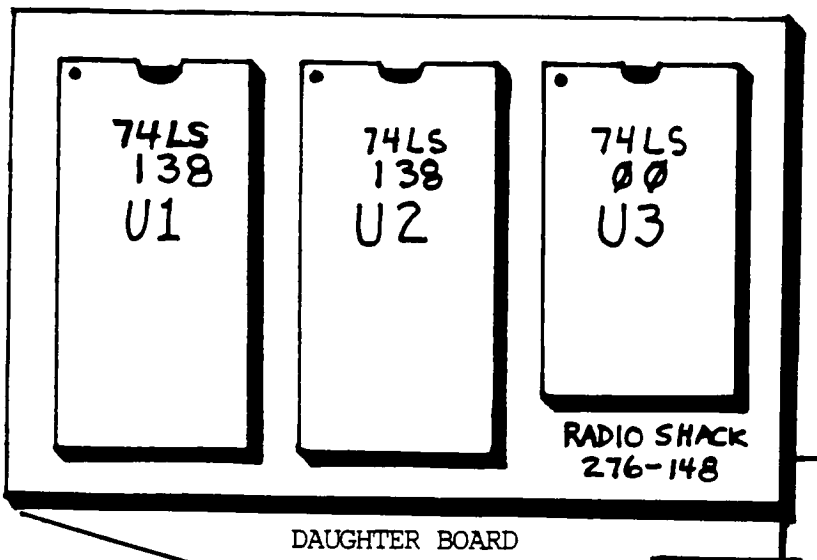
1.Letter was received from CCAC which okayed our use of the facilities of the South Campus for the current year. 2.The program to get un-used TI computers into the hands of Libraries for their use is underway. Herb Reich is developing this program. Hopefully, the Boy Scouts will be involved in collecting the computers.

NEW BUSINESS:

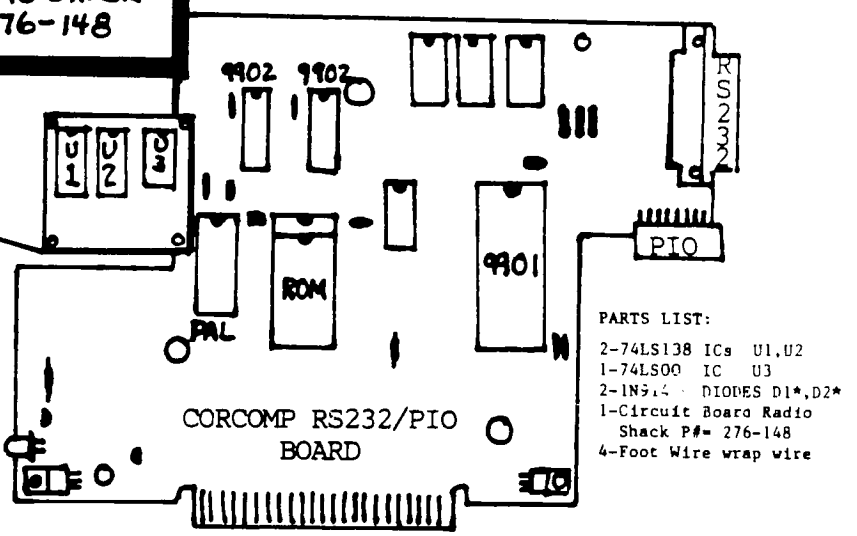
1.The process of selecting new Officers for the PUG will start at the next meeting. 2.Form Shop program was demo'd by Gary Taylor. It was won in a bingo game by H.Reich. 3.The following additional demonstrations were given: Rick Keppler demo'd Strike Three, a baseball game and John Wilforth demo'd a golf game. Respectfully Submitted Herbert H. Reich, Rec. Secy.

WHEN A PAL IS NOT YOUR PAL... (OR WHEN YOU CAN'T REPLACE IT WITH A STANDARD CHIP).

by John F. Willforth



Your PEB has controller cards that drive the printer, modem, disk Pascal, Ram Disk, and for for those fortunate enough, IEEE and EPROM programer cards. Many of these have on them a device called a PAL. The Programmable Array Logic chip comes in a wide variety of capacities and characteristics. When they are used they replace several chips by doing the same job as the several chips they replace, and can be designed and programmed when and where they are needed. They are also relatively inexpensive. Ron Gries gave me this idea about a year and a half ago when he needed a PAL for a TI RS232 card. I needed one for the CorComp so here is the replacement circuit for those of you who may have this PAL bad on your CorComp RS232/PIO card. If anyone has done the same for anyother TI card, please contact me so we can provide this information to the rest of the TI community. Point-to point wiring:



FROM	TO	FROM	TO	FROM	TO	FROM	TO
U2,1	-- PAL,12	U2,2	-- PAL,8	U2,3	-- PAL,11	U2,4	-- PAL,5
U2,14	-- U1,5	U1,1	-- PAL,2	U1,2	-- PAL,3	U1,13	-- PAL,14
U1,14	-- PAL,15	U1,15	-- PAL,16	U1,3	-- PAL,7	U1,6	-- D1*
D1*	-- PAL,4	U1,6	-- D2*	D2*	-- PAL,6	U1,4	-- PAL,9
U3,4	-- PAL,20	U3,5	-- U2,11	U3,6	-- U3,9	U3,10	-- PAL,1
U3,8	-- PAL,13	U2,5&8	-- U1,8	U2,6&16	-- U1,16	U1,8	-- PAL,10
U1,16	-- PAL,20	U3,14	-- U3,4	U3,7	-- U2,8	PAL,17&18	-- Not Conn.

D1* and D2* anodes (not the banded end) are tied together and attached to U1, pin 6, while the anode ends (banded ends) go to the two PAL pins indicated.

ALL voltages are taken care of in the point-to-point above. Use wire wrap wire, and attach all wires on the back of the board (non-component side). Be sure that the defective PAL is NOT in the board. Put a couple of drops of Super Glue on the back right side of the new daughter board, and lay it against the component side of the RS232/PIO board as indicated above in the drawing. This works quite well. If a PAL is acquired in the future, just take the 18 wires off the PAL pads on the back of the board.

This is a case where three chips were needed to replace the single PAL involved, but it could be cost effective to just buy the PAL in the first place rather than build this circuit. You may need this if the PAL is: Too costly, not available, to troubleshoot a problem rather than order a PAL which will take a while to get, and may not fix the problem. You decide.

THE PUG MEETS
ON THE 3RD SUNDAY OF THE MONTH
AT COMMUNITY COLLEGE OF ALLEGHENY COUNTY
OFF ROUTE 885 NEAR CENTURY III MALL

CLASSES BEGIN AT 3 PM
GENERAL MEETING BEGINS PROMPTLY AT 6PM

FEBRUARY 1989

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
(19)	20	21	22	23	24	25
26	27	28				

MARCH 1989

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
(19)	20	21	22	23	24	25
26	27	28	29	30	31	

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Rec Sec:	Herb Reich	412-531-9023
Librarian:	Susan Harper	412-464-0525
Cor. Sec.& NL Editor:	Audrey Bucher	412-881-5244

SCHEDULE

3-4:30 Basic Basic with Gary.....Rm. 482
4:30-6 Hardware Class with John.....Rm. 475
Clean your console
5-5:30 Multiplan Class with Audrey.....Rm. 482
6:00-? General Meeting
SEE YOU THERE

PITTSBURGH USER'S GROUP
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