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THE PUG PERIPHERAL

THE MONTHLY NEWSLETTER OF THE PITTSBURGH USER'S GROUP

MARCH, 1989

CLUB NEWS BY GARY TAYLOR

ELECTION OF OFFICERS WILL BE HELD AT THE MARCH MEETING. YOU ACTUALLY HAVE A CHOICE TO MAKE THIS YEAR FOR THE OFFICE OF VICE PRESIDENT. JIM ALEXANDER, OUR INCUMBENT, WILL BE GOING HEAD TO HEAD WITH MIKE SEALY FOR VICE PRESIDENT. SO COME OUT AND VOTE AND MAY THE BEST MAN WIN. ALL OTHER OFFICERS HAVE AGREED TO STAY ON AND ARE RUNNING UNOPPOSED.

I CALLED DENNIS FAHERTY, THE AUTHOR OF TI-BASE, AND ORDERED THE 6 COPIES OF THE UPGRADES FOR TI-BASE. I ALSO ORDERED 4 NEW COPIES OF RELEASE 2.01 FOR THOSE OF YOU THAT REQUESTED IT. I WILL HAVE THEM AT THE NEXT MEETING SO PLEASE BE PREPARED TO PICK THEM UP AT THAT TIME. YOU MUST BRING YOUR ORIGINAL TI-BASE DISKS WITH YOU TO RECEIVE THE UPDATES.

I PASSED OUT A COPY OF THE FIRST TUTORIAL ON TI-BASE WRITTEN BY MARTIN SMOLEY OF THE NORTHCOAST 99'ERS LAST MONTH. I WILL HAVE AT LEAST 10 COPIES OF TUTORIALS 2 THRU 6 AT THE NEXT MEETING FOR THOSE OF YOU WHO HAVE THIS FINE DATABASE PROGRAM. HIS TUTORIALS HAVE APPEARED IN MANY NEWSLETTERS ACROSS THE COUNTRY, BUT ITS SHEER SIZE PREVENTS US FROM DOING SO. MARTIN HAS DONE AN EXCELLENT JOB WITH THE TUTORIALS SO TAKE ADVANTAGE OF THIS FREE OFFER FROM YOUR CLUB.

WHILE TALKING WITH DENNIS, HE MENTIONED THAT HIS SON CHRIS, AUTHOR OF TI-ARTIST, IS HARD AT WORK ON A NEW RELEASE. TI-ARTIST RELEASE 3.0 IS EXPECTED TO BE AVAILABLE FOR DISTRIBUTION IN JUNE.

THERE IS GOING TO BE A SHORT DELAY IN THE PRODUCTION OF THE "ZENO BOARD". I TALKED WITH ERIC IN FEBRUARY AND HE SAID THAT FINAL DESIGN HAS BEEN COMPLETED FOR THE BOARD AND HE WILL BE ORDERING A PRODUCTION RUN OF 500 BOARDS. THE "ZENO BOARD" WILL FIT INSIDE YOUR 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 JUNE, OR MAYBE JULY. I WILL KEEP YOU POSTED ON THE LATEST DEVELOPMENTS AS THEY HAPPEN. THIS IS A BARE BOARD AND DOES NOT COME POPULATED WITH ALL THE COMPONENTS FOR 32K, A CLOCK, X-BASIC, SPEECH, OR A PARALLEL PORT. YOU WILL HAVE TO DISMANTLE YOUR COMPONENTS OR OBTAIN NEW ONES AND PLACE THEM ON THE BOARD BEFORE YOU PUT IT IN YOUR CONSOLE. THE PRICE IS STILL EXPECTED TO BE AROUND 15.00. IF YOU WANT MORE DETAILS WRITE TO ERIC ZENO, 414 HIGHLAND ROAD, PGH, PA 15235.

THIS MONTH WE WILL BE TREATED TO A VERY SPECIAL HARDWARE CLASS. BUD MILLS OF BUD MILLS SERVICES, WILL BE HERE TO DEMONSTRATE AND HELP WITH PROBLEMS RELATING TO THE HORIZON RAM DISK. JOHN WILLFORTH HAS AGREED TO SHARE THE STAGE WITH BUD SO BOTH WILL BE ON HAND TO HELP WITH ANY HARDWARE PROBLEM YOU HAVE. BUD WILL ALSO BE GIVING A DEMO AT THE MAIN MEETING OF THE NEW P-GRAM CARD. I JUST DID NOT WANT HIM STANDING AROUND WITH HIS HANDS IN HIS POCKETS WHILE I TEACH BASIC. SO, I'M PUTTING HIM TO WORK. DON'T MISS THIS OPPORTUNITY TO MEET AND SAY HI TO BUD.

I WILL BE STARTING MY SECOND CLASS ON BASIC BASIC THIS MONTH. WE COMPLETED ONLY 3 OF THE 10 LESSONS ON THE "TEACH YOURSELF BASIC" SERIES. SO, IT IS NOT TOO LATE TO START COMING TO THESE CLASSES AS WE HAVE JUST SCRATCHED THE SURFACE OF THE MATERIAL. THIS IS A TRUE BEGINNER'S CLASS AND IS GEARED FOR THE PERSON WHO JUST GOT THEIR COMPUTER AND WANTS TO KNOW HOW TO PROGRAM IT. 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.

THE FOLLOWING IS TAKEN FROM THE MID SOUTH 99 USER GROUP NEWSLETTER FOR FEBRUARY, 1989. IT WAS WRITTEN BY GARY W. COX, PRESIDENT OF THE GROUP AND I COULDN'T IMPROVE ON IT SO I AM INCLUDING IT HERE FOR YOUR INFORMATION AS IT APPEARED IN THEIR NEWSLETTER. "ACCORDING TO A REPRESENTATIVE AT TEXAS INSTRUMENTS'S 800 NUMBER AS OF THE FIRST OF THIS YEAR THE CHARGES FOR REPAIR/EXCHANGE OF 99/4A CONSOLES ARE NOW \$45 PLUS \$6 SHIPPING. PREVIOUSLY THE CHARGE WAS ONLY \$35. HOWEVER, CONSOLES NOW COME WITH A SIX MONTH WARRANTY. CHARGES ON OTHER ITEMS ARE AS FOLLOWS: PEB \$55, 32K \$44, DISK CONTROLLER \$44, SPEECH SYNTHESIZER \$30, AND FLEX CABLE INTERFACE CARD \$25.75. RETURN SHIPPING FOR EACH ITEM RANGE FROM \$5 TO \$6 DOLLARS. EQUIPMENT NEEDING REPAIR SHOULD BE SENT TO TEXAS INSTRUMENTS, ATTENTION REPAIR CENTER, 2305 NORTH UNIVERSITY AVE., LUBBOCK, TX 79408. FOR MORE INFORMATION CALL CUSTOMER AT 1-800-TI-CARES OR (806) 747-1882."



DM1000 VERSIONS 3.6, 3.7, 3.8, 3.9, AND 4.0 ARE NOT AUTHORIZED RELEASES. THE OTTAWA USER'S GROUP HAS MENTIONED IT MANY TIMES THAT THESE VERSIONS SHOULD HAVE NEVER GOTTEN OUT TO THE TI PUBLIC. THESE VERSIONS HAVE BUGS IN THEM AND MAY (ACCORDING TO MURPHY WILL) CAUSE YOU TO LOSE DATA. THE LAST AUTHORIZED RELEASE IS 3.5!

ROGER MERRITT HAS RELEASED A NEW PRODUCT THROUGH COMPRODINE CALLED JIFFY CARD. THIS PROGRAM OPERATES SIMILAR TO JIFFY FLYER THAT I DEMONSTRATED LAST MONTH. I HOPE TO HAVE A COPY TO DEMONSTRATE AT THE MEETING. THIS PRODUCT WILL ALLOW YOU TO CREATE PERSONALIZED GREETING CARDS. ROGER HAS PRODUCED SEVERAL FINE PRODUCTS IN THE LAST FEW MONTHS, FORM SHOPPE, AND JIFFY FLYER TO NAME A COUPLE. HE ASKS \$15 PLUS \$1 SHIPPING. SEND TO COMPRODINE, % ROGER MERRITT, 1949 EVERGREEN AVE., FULLERTON, CA 92635.

ONE OF THE MOST INFORMATIVE NEWSLETTERS THAT WE RECEIVE IS FROM CHARLES GOOD OF THE LIMA 99/4A USER'S GROUP. THIS MONTH'S ISSUE COVERS A BUG THAT HE HAS FOUND WITH TURBO COPY. HE ALSO GIVES A DETAILED REPORT OF HIS EXPERIENCE WITH THE NEW DIGIT SYSTEMS AVPC CARD. I FEEL THAT THIS ISSUE WOULD BE OF GREAT VALUE TO YOU SO I WILL HAVE 25 COPIES ON HAND AT THE NEXT MEETING SO THAT YOU CAN HAVE YOUR OWN COPY. FREE OF COURSE!



I HAVE COMMITTED OUR CLUB TO SUPPORTING TWO TABLES AT THE TI FAIRE THAT WILL BE HELD THIS FALL BY THE CENTRAL PA TI USER'S GROUP. WE WILL NEED HELP IN MANNING THE TABLES, PROVIDING EQUIPMENT, SELLING DISKS FROM THE LIBRARY ETC. I THOUGHT OUR CLUB WOULD SPECIALIZE IN EDUCATIONAL SOFTWARE FOR THE SHOW AND MAYBE WE COULD DEVELOP A FEW PROGRAMS THAT WE COULD USE AS A FUND RAISER FOR THE CLUB. ANY VOLUNTEERS?



FAIR SCHEDULES

T.I.C.O.F.F MARCH 18
ROSELLE PARK HIGH SCHOOL
ROSELLE PARK, NEW JERSEY

BOSTON FAYUH APRIL 1
RAMADA INN
WOBBURN, MASS.

LIMA UG CONFERENCE MAY 20
LIMA CAMPUS/OHIO STATE UNIV
LIMA, OHIO

TI ARTIST...for the beginner-Vol. 2
by Don McCalla and Evelyn Pacinda

Last month we discussed Fonts, Instances, and printing Pictures. This month we'll explain Slides and some of the TI-Artist Menu options.

First of all, I'd better mention that if you didn't modify your computer to disengage your alpha lock with joystick use, release it or your cursor won't go up!

Slides are found under "S" in Enhancements. The default slides are a complete set of electronic symbols bordering the Enhancement menu, useful if you want to make schematics. Slides can be used to store and retrieve a set of related symbols that you frequently use, like music notes or patterns. Some slide programs are found on the supplemental disks. To use the default Slides, just position your cursor over the desired Slide and press the fire button. You can then place the Slide as desired on your picture. You can re-use the Slide by repositioning and pressing the Fire button. Press space bar to return to Enhancement Menu.

At the Slide Menu there are several options; Define a Slide, Erase a Slide, Rotate a Slide, Load a Slide, and Save a Slide. Also, Load and Save an Instance can be found here.

To define a Slide, you must first draw the symbol(s) desired using the TI-Artist menu. You can also take a portion of a pre-made picture. Keep in mind that the maximum size of your slide is about 4 characters by 4 characters. After choosing the option Define a slide, take the cursor and place it in the block where you want the slide to be. Press fire button and a box appears over your picture. Position the box where desired and press Fire. Your chosen slide now appears in the desired slide box. You can continue to do this until all 24 Slide boxes are full. As long as you're making slides, the fire button will alternate between your picture and the slide frame. Once you have created your slides, to get to the Slides Menu, press the space bar.

The Erase a Slide Function (2) is similar, except that you position the cursor over an existing slide on frame, press fire button, and it's gone. This does not effect the picture, just the slides around the frame. The Rotate Function (3) rotates the slide your cursor is on by 90 degrees each time the fire button is pressed.

To Load a Slide file from a disk, press (4) and enter drive # and filename at the prompt; Slide files are "_S"-don't add that at the end of the filename; the program does that automatically. They will appear in the border slide frames.

To Save a Slide (5), enter your desired filename at the prompt after defining the slides as desired. Remember not to add the "_S" at the end.

The last option on this menu is Save an Instance (7). Instances are sections of pictures which can vary in size from as small as you want to as large as the screen. This option directly saves your Instance to Disk at the same time it's defined. You are first prompted for a filename (remember, you

don't need the "_I"), and you are then returned to your picture. The cursor must be positioned in an upper corner of the chosen area, press the fire button, and a blinking box appears. Move the cursor until your chosen Instance is within the box, and press fire. The Instance is then immediately saved to disk.

Now for the TI-Artist menu. There are other Enhancements, but we'll deal with them later. To get there from the Enhancement menu, press FCTN Quit and load TI-Artist from the Main Menu.

To select any function on this menu, you can position the cursor over the desired box, or press the appropriate letter. You can access these functions directly from your picture without going back to this menu if you know which keyboard letter to press. Otherwise, press space bar to alternate between picture and menu.

The first box(icon) is Draw(D). This allows you to draw freehand whenever the fire button is pressed. To move the cursor to another area, simply release the fire button. There are options to change brush styles and colors at the bottom of the menu screen.

Point(P) draws one point at a time when the fire button is depressed. Otherwise it works the same as Draw.

Line(L) is for all of us who can't draw straight lines. To make a Line, position your cursor over the start point and press fire. A "rubber band" type line appears wherever you move your cursor to. When positioned, press the fire button again and your line is set. The cursor is then returned to the beginning point of the line.

K-Line(K) works the same as Line, but you can continue your line from the second endpoint of the previous line.

Rays(R) is also similar to Line but you can create multiple lines from the first point just by moving the cursor and pressing fire. All rays created originate from the first point specified.

Fill(F) is a very DANGEROUS function. It is used to fill a shape with a desired pattern or color. It only takes positioning the cursor in the shape and pressing fire. Be aware that this keypress may terminally ruin your entire picture if your shape is not TOTALLY enclosed. If you have any doubts as to whether or not your shape is totally enclosed, and you really like your picture, go to the Zoom function and check the outer border of the shape you desire to fill. At any time during the Fill process you may abort by pressing the space bar. Hint: Keep your finger ready on this bar!

Frame(V) makes rectangles and squares. Designate a corner of the frame and press fire. A rubber band box appears; by moving the cursor you can make interesting sizes and shapes. When positioned as desired, press fire again. Your frame is now complete.

Box(X) is exactly like Frame except that rectangle is filled in with the color or pattern chosen in the bottom of the menu screen. When pattern is set to (P), and the Plot/Erase icon is OFF, this makes a good block eraser.

Circle(O) makes individual circles. Pressing fire sets center, move cursor to set radius and press fire again.

Disk(Q) works like Circle and fills area in like Box function.

Clear Image(A) is accessed by pressing "CTRL A". This clears pattern portion of the screen (this is everything unless you are using color). It leaves the color portion untouched.

If in Zoom mode, it will only clear the Zoom window.

H or V(H) is used to draw individual horizontal or vertical lines. This is extremely useful if drawing plots or graphs where precision is desired. To use, define endpoint and press fire. A rubber band appears which determines length of line. Press fire to set. Don't worry if you aren't sure whether the line is exactly H or V, the function makes it exact.

Swap(N) is a color function. It is used to swap colors. Place cursor where you want new color to be and press fire. Move cursor to desired color (already on picture) and press fire button again. The new color will then replace ALL of the old color in the picture. If you're in Zoom, it will only replace the color in the window.

Invert(I) makes a "negative" of your picture (or window, if in the Zoom mode).

Alpha Numeric(E) Has nothing to do with Fonts. It allows you to type onto the picture direct. Place the cursor where you want to start the text, press the fire button and start typing. You can change the size of the type horizontally and vertically. Use C for horizontal size and FCTN F for vertical size. Both range from 1 to 9, giving a total of 81 varieties of Alphanumeric type. Press fire button to stop typing and choose another function.

That's all for this month. We didn't mean to stop here but we ran out of room. Next month we'll finish the TI-Artist menu and go on to bigger and better things.

WELCOME

The PUG would like to extend a warm welcome to our newest members. Richard Devlin & Dr. Stephen Justin. We would also like to convey our continued welcome to Bill Krieger and Cliff Pempner who have recently renewed their memberships.

FROM THE MAILBOX

From LA Topics/PUNN comes this great program to keep the grandkids busy. The....

TALKING TYPEWRITER

```
100! Author unknown
110 CALL CLEAR
120 CALL KEY(0,K,B)
130 IF B<1 THEN 120
140 IF K>90 THEN 120
150 IF K<65 THEN 120
160 CALL CLEAR
170 CALL BPRITE(#1,K,2,85,120)
180 CALL MAGNIFY(2)
190 CALL SAY(CHR*(K))
200 GOTO 120
```

T.I. Writer

Part 14

By Stan Katzman



The last sections we will deal with has to do with form letters. There are two ways of making form letters in T. I. Writer. The first way is with the "values" being entered from the keyboard for each individual form letter. The second method is to use a value file on disk. We will only discuss the first one.

In order to do this one composes the letter in the Editor for use in the Formatter. Let us use a specific example.

```
.LM 10;RM 70;FI;IN 40
.SP 8
.DP 1:DATE
#1#
.IN +0
.SP 5
.DP 2:CO NAME
.DP 3:CO ADDRESS
.DP 4:CO CITY STATE AND ZIP
#2#
#3#
#4#
.SP 2
.IN +5
.DP 5:ITEM NAME
.DP 6:MAGAZINE NAME
Would you please send me information about
your #5# that I saw advertised in #6#.
.SP 6
.IN 40
Thank you
.SP 4
Joe Smith
11 Main St.
Anycity, State 00000
```

All of the above "dot" commands should be known to us by now except ".DP". .DP is called the Define Prompt. If you notice each .DP has a number then a colon followed by a phrase. This phrase is what will show on the Formatter screen. In the body of the letter there is a corresponding number surrounded by asterisks which puts the value from the answer N to mailing list and enter the number of form letters you want when the number of copies is asked for. Then on the bottom of the screen you will see the word "DATE" and you enter the date which will be printed on the printer, continue this and you will have your finished form letter. It will then repeat depending upon the number of copies you asked for. Obviously this is not for a lot of form letters but if you want a few letters it is fine.

FORTH TO GO, 700 SESSION 7

This is in answer to questions regarding the use of sprites and other graphics capabilities of the 99/4A with Forth. As we all know, we got a pretty good deal because TI built a fair amount of graphics into this little machine. Anyone who has seen PARSEC etc. can vouch for that. And all of them can be utilized in TI-Forth, with commands (statements) which are very similar to the ones employed in BASIC and XBASIC.

However, there are a couple of things which must be done in order to use any of the available VDP (graphics) modes. First of all, the appropriate LOAD OPTION must be booted, i.e. -GRAPH and -VDPMODES. If you are using the 64 column editor you only need to boot -SPLIT2, the rest of them are already booted. Another thing you will have to do is to fix a bug in line 10 of screen 58. It should read as shown below:

```
VDPMODE 4 < IF SMTN BO VFILL 300 ' SATR ! ENDIF
```

(in other words the ! after 300 should be a ' (tick)).

And while you are at it, fix line 1 of page 10 in Chapter 6 of the manual to read: HEX 3800 ' SATR ! Also, on screens 53, 54 and 55 the last word of line 1 should be SETVDP2, NDT VDPSET2. For some strange reason it is correctly shown on screens 51 and 52. Finally, on screen 59, line 9, change the OOFF to OOFFE.

Now let's take a look at what is available in Forth. I have drawn up the following chart for easy reference:

VDP MODE	ASCII CHARS	CHAR DEF?	FG/BG	HCHAR VCHAR	SPRI- TES	SPR. MOT.	DISPLAY SIZE
TEXT	YES	YES	NO	YES	NO	NO	40 x 24
GRAPHICS	YES	YES	YES	YES	YES	YES	32 x 24
MULTI	NO	NO	NO	NO	YES	YES	64 x 48
BITMAP	NO	NO	NO	NO	YES	NO	256 x 192
SPLIT	same as BIT-MAP with 8 lines text on bottom						
SPLIT2	same as BIT-MAP with 4 lines text on top						

There are essentially four display modes, except one of them, BITMAP, comes in three versions. When Forth boots, the display is in TEXT mode: 24 lines of 40 characters each. This is the mode used by the 40-column editor. New characters can be defined but all characters have the same foreground/background colors, there is no control of individual character sets. The easiest way to set text/background color is by using nn 7 VWTR (see tut 1). If -TEXT is booted you can return to text mode by entering TEXT.

The screen display of the GRAPHICS mode is identical to that of BASIC or XBASIC: 24 lines of 32 characters. And, as the chart shows, its features the same also. But beware! If you want to set FG/BG colors, charsets are numbered from 0 and start at ASCII 0. The first set containing displayable characters is number 4 in Forth. It is not stated in the manual but you can go to Appendix A (ASCII KEY CODES) and

divide each column into groups of 8 characters, then number them - starting with zero! - and you will know what sets to use. IF -VDPMODES is booted you can enter this mode by invoking GRAPHICS.

Then there is the MULTICOLOR mode. I've seen those 'crazy quilt' demos, what else it might be good for, I don't know. A 'character' is a block of 4x4 pixels, thus there are 48 lines of 64 blocks. Each of them can be set to a different color. Use MULTI to enter this mode.

The BITMAP mode provides the highest resolution. Each of the 256 pixels in the 192 lines can be controlled individually. But there is a drawback: No automation for sprites. Since standard characters can not be displayed TI has provided a neat feature with split modes where a large part of the display is in bitmap and the remainder can display ASCII characters. This comes in real handy when you want to experiment with the various graphics words since you'll be able to see what you are typing. The words for entering the various bitmap modes are GRAPHICS2 (full-screen bitmap), SPLITq (text at bottom) and SPLIT2 (text at top). By the way, if you opted for the 64-column editor, it uses SPLIT.

Study chapter 6 of the TI-FORTH manual. You will notice that: a) all you need to know is there, b) you are already familiar with most commands by way of BASIC, and c) if you have absorbed enough Forth by now, it's easy to see that the main difference is that parameters (in typical Forth fashion) go on the stack before the operative word is invoked. If you want to use sprites, pay particular attention to the section on Sprite Initialization (page 8 of Ch.6). Here is a brief example which shows how sprite is set up:

```
0 ( SPRITE SAMPLE )
1
2 BASE->R HEX
3 : SETUP
4     GRAPHICS ( set standard graphics mode )
5     2000 SSDT ( set sprite descriptor table )
6     102B 44B2 442B 1000 2A SPCCHAR ( char def )
7     3F 2F OF 2A 1 SPRITE ( sprite parameters )
8     15 0 1 MOTION ( motion parameters )
9     2 #MOTION ; ( set sprite in motion )
10
11 DECIMAL R->BASE
12
13 SETUP
14
15
16
```

This example is for standard GRAPHICS mode. If you wanted to use bitmap line 4 would have to read GRAPHICS2, (or SPLIT or SPLIT2), line 5 would have to include 3800 ' SATR ! but lines 8 and 9 would be superfluous. As this screen is loaded a sprite is displayed and set in motion. You can enter TEXT and return to the text mode. Typing SETUP will again produce the sprite.

Only by exploring and experimenting will you be able to gain proficiency with the graphics features offered by TI-FORTH. As I have mentioned, all the necessary information can be found in the manual, though not in a tutorial manner.

DISK DRIVES (#7)
by John F. Willforth

Continuing with problems from #6.

Common problem #9, deals with drives that are double-sided (2 heads). The drive exhibits problems when either reading or writing to a particular head. A head could be the problem, or that part of the logic that is associated with the head before the circuit becomes common to both. The easiest way to trouble-

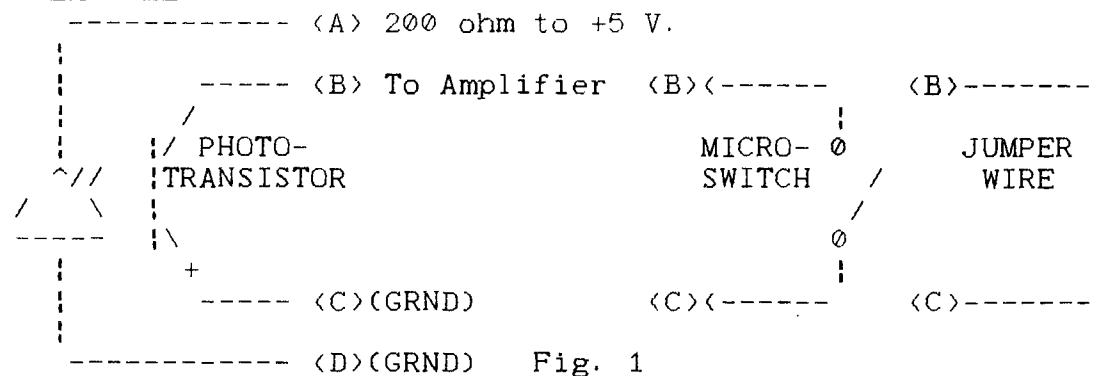
shoot this problem to the head or to the board, is to switch the head wires as they connect to the logic board, and re-format then test the drive again. If the problem now moves to a new head/cylinder number, then the problem is in a HEAD, this is the more difficult and costly to fix, and will justify removing the drive from service for good. If the problem stays with same, a chip or other simple component may easily fix the problem. Here it might be wise to get

some as-is drives for about \$5. each at a HAMFEST or other source of defective units, and use these as a source of some of the less commonly available items, such as the "CA3054" chip which is a hybrid driver chip for the read/write amp. in many logic boards, especially on MPI disk drives.

Common problem #10, is more of a hint to make it easier to select different unit and Head Load w/Motor On or Head Load w/Select jumpering without having to put a new Shunt Pack on the logic board. Just replace it with a 14 (or 16) pin switch pack assembly. You can now easily experiment with different settings.

Common problem #11, deals with the LED/PHOTO TRANSISTOR sensors that are used on many disk drives. These can cause various problems and because they are each functioning in a different fashion, the problem will appear different. The LED is the part that issues a light that then is picked up by the PHOTO-TRANSISTOR and allows either FLOAT (+5V) or GROUND (0V) to be fed to the sensing circuit of this SENSOR SET. It may be possible to replace a suspected unit, but it may be easy using a micro-switch to troubleshoot to a defective sensor assembly.

EXAMPLE:



In Fig. 1 above, you might be looking at the TRACK 00, INDEX, or the WRITE PROTECT SENSOR assembly. The LED issues light in the spectrum where the human eye cannot see it, but the PHOTO-TRANSISTOR can pick it up. If something, let's say a write protect tab, fills the notched area that the manufacturer cut into the side of the diskette when it was made, then light will not be seen by the PHOTO/TRANS. and logic will tell the controller, and the controller in turn will let the DSR know at the appropriate time. If the LED is bad or the PHOTO-TRANS. is bad, the drive will think the write protect tab is over the notch, and as a result you will not be able to write to the disk. You could do a quick test of the PHOTO-TRANS. by shorting pins B and C together to see if the drive logic is good. If the unit is write enabled, then either the LED, or PHOTO-TRS. are bad. Again you can get these parts cheapest from AS-IS units.

CSI*F INDEX

```

100 REM CSI*FINDEX
110 REM TI BASIC
120 REM FAIRWARE. If you lik
e this program please send a
donation to JOSEPH E. BARTL
E at the address below.
130 REM 16 S&E TRAILOR CT
140 REM PARISH,NY 13131
150 REM 315-625-4409
160 REM Originally written i
983, revised 1985
170 REM Minor modifications
by Charles Good, DEC 88.
180 REM Remove line 190, and
all REM lines including 1765
to fit into MINIMEMORY
190 CALL CLEAR
200 _$="_____ "
210 C$="CATALOG"
220 LC$="LOCATION SEARCH"
230 DEF LF=LEN(F$)
240 T=1000
250 DIM P$(19)
260 DISPLAY TAB(6);"CASSETTE
INDEX": :TAB(6);"Joseph E
Bartle": : : : : : : : :
270 GOSUB 2030
280 CALL CLEAR
290 PRINT LC$;" Y/N"
300 INPUT AN$
310 IF AN$="Y" THEN 1620
320 DISPLAY
330 PRINT "DOES TAPE HAVE ";
C$
340 INPUT AN$
350 IF AN$(">Y") THEN 540
360 GOSUB 1400
370 GOSUB 810
380 CALL CLEAR
390 RESTORE 2060
400 MI=18
410 GOSUB 1970
420 CALL KEY(0,DP,S)
430 IF (DP<49)+(DP>53) THEN 4
20 ELSE 460
440 IF S=0 THEN 420
450 T=1000
460 ON DP-48 GOTO 470,540,69
0,750,780
470 CALL CLEAR
480 DISPLAY TAB(8);LC$: : :
: : : : :
490 GOSUB 2030
500 GOSUB 900
510 GOSUB 1930
520 IF C=0 THEN 380
530 GOSUB 1640
540 CALL CLEAR
550 DISPLAY TAB(8);"NEW "&C$
: : : : :
560 FOR @=1 TO 20
570 F$=F$& $
580 NEXT @
590 FF$=F$
600 GOSUB 810
610 GOSUB 2030
620 OP=50
630 GOSUB 1460
640 GOSUB 900
650 GOSUB 1150
660 GOSUB 870
670 GOSUB 1330
680 GOTO 380
690 CALL CLEAR
700 DISPLAY TAB(8);"CHANGE "
&C$: : : : : : : :
710 GOSUB 2030
720 GOSUB 900
730 GOSUB 1150
740 GOSUB 1460
750 GOSUB 870
760 GOSUB 1330
770 GOTO 380
780 CALL CLEAR
790 DISPLAY "@1983,@1984,@19
85"
800 STOP
810 CALL CLEAR
820 FOR I=0 TO 19
830 P$(I)=SEG$(F$,I*12+1,12
)
840 IF (SEG$(P$(I),1,1)=""
)+(SEG$(P$(I),1,1)="" THEN
860
850 NEXT I
860 RETURN
870 INPUT "PRINTOUT? I=Y/O=N
":IO
880 IF IO=0 THEN 900
890 OPEN #IO:"PIO"
900 CALL CLEAR
910 PRINT #IO:TAB(9);C$:TAB(
4);"NUM ":TAB(12);"PROGRAMS"
920 FOR I=0 TO 19
930 IF I>09 THEN 990
940 IF I>08 THEN 970
950 PRINT #IO:TAB(5);I+1;"^
";P$(I)
960 GOTO 1000
970 PRINT #IO:TAB(4);I+1;"^
";P$(I):TAB(12);"REMARKS!"
980 GOTO 1000
990 PRINT #IO:TAB(4);I+1;"R
";P$(I)
1000 NEXT I
1010 IF IO=0 THEN 1040
1020 CLOSE #IO
1030 IO=0
1040 RETURN
1050 CALL CLEAR
1060 DISPLAY : " TO END CATAL
OG PRESS ENTER.": : " PROGRAM
NAME ^LIMIT 12 CHR^"
1070 DISPLAY : "OLD NAME/REM#
":I+1;P$(I): :
1080 INPUT " " $
***** "
:N$
1090 IF LEN(N$)>12 THEN 1100
ELSE 1130
1100 CALL CLEAR
1110 DISPLAY "REDO !"
1120 GOTO 1080
1130 FS=N$&SEG$(_,1,12-LEN
(N$))
1140 RETURN
1150 INPUT "CHANGE? Y/N ":CH
$
1160 IF CH(">Y") THEN 1320
1170 OP=51
1180 DISPLAY
1190 INPUT "NUMBER OF REMARK
0 FOR NONE ":I
1200 IF (I>10)*(I<21) THEN 12
50 ELSE 1220
1210 DISPLAY
1220 INPUT "NUMBER OF PROGRA
M 0 TO QUIT ":I
1230 IF I=0 THEN 1320
1240 IF I>20 THEN 1320
1250 I=I-1
1260 GOSUB 1050
1270 P$(I)=FS$
1280 DISPLAY
1290 INPUT "MORE Y/N ":CH$
1300 IF CH$="Y" THEN 1190
1310 GOSUB 1460
1320 RETURN
1330 INPUT "SAVE Y/N ":AN$
1340 IF AN$(">Y") THEN 380
1350 OPEN #4:"CSI",INTERNAL,
OUTPUT,FIXED 192
1360 PRINT #4;G$
1370 PRINT #4;H$
1380 CLOSE #4
1390 RETURN
1400 OPEN #3:"CSI",INTERNAL,
INPUT ,FIXED 192
1410 INPUT #3;G$
1420 INPUT #3;H$
1430 F$=G$&H$
1440 CLOSE #3
1450 RETURN
1460 F$=""
1470 FOR I=0 TO 19
1480 IF OP<50 THEN 1520
1490 GOSUB 1050
1500 P$(I)=FS$
1510 IF SEG$(P$(I),2,1)=""
THEN 1580
1520 F$=F$&P$(I)
1530 IF (L$="M")+(OP=50)+(OP
=51) THEN 1560
1540 I=I+1
1550 IF I>19 THEN 730
1560 IF (L$="Y")+(OP=52) THEN
1580
1570 NEXT I
1580 F$=F$&SEG$(FF$,LF+1,240
-LF)
1590 G$=SEG$(F$,1,180)
1600 H$=SEG$(F$,181,180)
1610 RETURN
1620 INPUT "LOCATION 1-10 ":
M
1630 M=M-1
1640 CALL CLEAR
1650 FOR CC=2 TO 7
1660 CALL COLOR(CC,1,1)
1670 NEXT CC
1680 CALL SCREEN(2)
1690 RESTORE 2110
1700 MI=20
1710 GOSUB 1970
1720 CALL SCREEN(15)
1730 CALL KEY(0,KE,ST)
1740 IF ST=0 THEN 1730
1750 CALL HCHAR(18,1,31,192)
1760 CALL SCREEN(13)
1770 OPEN #2:"CSI",DISPLAY ,
OUTPUT,FIXED 192
1780 FOR I=0 TO M
1790 IF I<>M THEN 1810
1800 CALL SCREEN(11)
1810 PRINT #2:I
1820 NEXT I
1830 CALL SCREEN(9)
1840 CLOSE #2
1850 CALL CLEAR
1860 FOR CC=2 TO 7
1870 CALL COLOR(CC,2,1)
1880 NEXT CC
1890 DISPLAY "PGM. LOCATED":
: :PG$(I-1): : : "DO NOT REM
IND !": : : "ENTER OLD OR SAV
E CSI": : : "CON TO CONTINUE"
: : :
1900 REM Change 1770 to RUN
"CSI" for extended basic aut
oload
1910 BREAK
1920 GOTO 380

```

(continued next page)

CS1*Findex pgm. continued..

```

1930 INPUT "NUM 1-10 OR ""0"
" TO EXIT ":C
1940 IF (C<0)+(C>13)THEN 327
67
1950 M=C-1
1960 RETURN
1970 CALL CLEAR
1980 FOR R=1 TO M1
1990 READ A$
2000 DISPLAY TAB(3);A$
2010 NEXT R
2020 RETURN
2030 CALL SOUND(T,111,30)
2040 CALL SOUND(1,111,30)
2050 RETURN
2060 DATA !!!!!!!!!!!!!!!
!!!!!!;!
!;! OPTION LIST !
!;!

```

```

2070 DATA !!!!!!!!!!!!!!!
!!!!!!;!
!;! 1\ SEARCH !
!;! 2\ NEW !
2080 DATA ! 3\ CHANGE
!;! 4\ PRINT
!;! 5\ DONE !
2090 DATA !
!;!
!;! ENTER 1,2,3,4 OR 5
!;!
2100 DATA !!!!!!!!!!!!!!!
!!!!!!;,
2110 DATA ,first beep rewind
tape,!then push enter!,,,se
cond beep push fast fwd,!the
n enter!,,
2120 DATA third beep push st
op,!then enter!,,,,,,pres
s any key to continue\

```

The "Flow Chart" is then loaded in Multiplan and printed out. The chart is very easy to use. You see how lines and arrows are used to connect each block, and it takes you through the proper order of the forms. For example, on a fairly typical return, you start with Schedule B, then 1040 Page 1, then Schedule A, then 1040 Page 2. (Tip: It helps to print out each blank form to use as a guide in filling in the form on the screen.) As you follow the flow chart of forms, the information in the INITIAL file is pulled from it to be used in the proper places on the various forms. Other needed information is also pulled from the other forms and put into the proper place. All calculations are done for you.

Mr. Chavanne has such a good and accurate program here, that the IRS has given him approval for his schedules to be printed by computer and filed with your return in place of the forms from the IRS booklet. The only exceptions are those forms that require your signature on them, such as 1040, 1040A, and 1040EZ. All others can be used right from your printer.

The program will print out the 1040 forms so that you can then just transpose the information to the form from the tax booklet. He also has a feature that will allow you to overprint the 1040 form with just the dollar figures. It takes a little patience to get the form lined up in your printer, but it will print information on both sides, and it puts it on the right lines. To do this, when you are ready to print, select PRINT, then OPTIONS. Where the line numbers to print are, just type "OVERPRINT" over the numbers; the program will then print only the data you have added.

We have found only one "buq" so far. This is on Schedule A. Where the data goes on line 5 for "State and Local Taxes," set your cursor on cell R16C10. Press "N" for name. Then type in "lines5thru7" (all in small letters). Use a "CTRL A" and type in "R16:19C10". This will enable the proper calculation for line 8.

I know that Mr. Chavanne has put in hundreds or thousands of hours writing these schedules, and I feel the small amount of money he wants for the forms is very reasonable compared to his time involved. He asks a set amount for each disk, or \$5.00 per side of form. The disk prices follow:

- SHORTFORMS \$20.00
- LONGFORM \$10.00
- SCHEDULES \$15.00
- USUAL FORMS \$15.00
- MOREFORMS \$15.00



I am not an expert on this program, by any means, but I would be glad to answer any questions anyone may have about it.

HAPPY FILING

PS: If you want a copy of this program, please contact the PUG librarian:
 Susan Harper
 5430 Fredanna St.
 Pittsburgh, Pa. 15207 412-464-0525



"I shouldn't worry, I've been in the same program for years and they haven't found me."



TI-TAX

A REVIEW
 By Art Gardner

There is a new tax program, written by William G. Chavanne of Ft. Meade, Md., that is the best I have run across. He has written a program that runs entirely in Multiplan, except for the DOCS, which run in Basic.

Before starting, copy onto a blank disk the "Initial" file and all other forms you will need. Then use this as your data disk.

There is a program you load in Basic first that is called "Print17." This is a short program that sets your printer to the correct compressed print settings. You then load in Multiplan. Next you load into Multiplan a file called "Initial." On this form, you put in all of your personal information, such as name, spouse's name, filing status, etc. This is then saved to your data disk.

Loan Payments

by Tony Falco

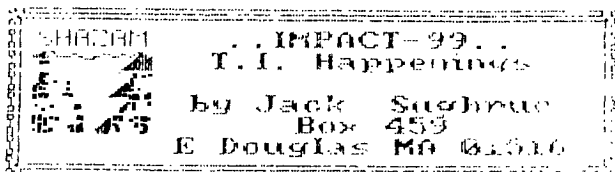
The purchase of a home is probably the largest investment that any of us makes. The short program given below computes the size of a monthly payment for any loan whether it be a car loan, a credit purchase for an appliance or a home mortgage.

A major source of profit to a financial institution is the interest recieved from loans. With this program you can see just what portion of your monthly payment goes to the principal and what part goes toward interest. There are two versions of the program. In the first version, the output goes to the screen. When using this version, you must press enter each time you see a blinking cursor. This will cause the next month's figures to be displayed. The second version sends output to a parallel printer. To run either version simply enter the amount borrowed, the rate of interest, and the number of years for the loan separated by commas. Then press enter.

Let's run through a hypothetical loan. Imagine you are buying a new home for \$180,000. You give a \$36,000 (20% of \$180,000) deposit. This leaves an amount borrowed of \$144,000. Suppose you take a 30 year mortgage at 11%. The program tells us that you will make 360 payments of \$1,371.35 each. Your first payment includes \$1320 for interest and only \$51.35 toward the principal. On the 9th payment of the 24th year, you pay \$685.44 toward principal and \$684.91 (almost equal) in interest. On your last payment \$1,358.89 goes toward principal and only \$12.46 is interest. Over the 30 year period you will have paid a whopping \$349,684.45 in interest fees and \$180,000 for the deposit and principal. This totals to \$529,684.45.

```
1 CALL CLEAR :: INPUT "$,%,#Yrs:":P,R,T
  :: I=R/1200 :: N=12*T :: PY=P*I*(1+I)^N/
  ((1+I)^N-1):: DISPLAY AT(4,1):" PAYMENT=
  $";INT(100*PY+.5)/100:" YR  MO  PRINCIPAL
  INTEREST"
2 FOR Y=1 TO T :: FOR M=1 TO 12 :: MI=I*
P :: MP=PY-MI :: DISPLAY AT(7,1):Y;TAB(5
);M;TAB(9);INT(100*MP+.5)/100;TAB(20);IN
T(100*MI+.5)/100 :: P=P-MP :: ACCEPT AT(
24,28):A$ :: NEXT M :: NEXT Y
```

```
1 OPEN #1:"PID" :: INPUT "$,%,#Yrs:":P,R
,T :: I=R/1200 :: N=12*T :: PY=P*I*(1+I)
^N/((1+I)^N-1):: PRINT #1:"LOAN=$";P,R;"
%", "PAYMENT=$";INT(100*PY+.5)/100:"YEAR"
,"MONTH",
2 PRINT #1:"PRINCIPAL","INTEREST" :: FOR
Y=1 TO T :: FOR M=1 TO 12 :: MI=I*P ::
MP=PY-MI :: PRINT #1:Y,M,INT(100*MP+.5)/
100,INT(100*MI+.5)/100 :: P=P-MP :: NEXT
M :: NEXT Y :: CLOSE #1
```



ADVENTURING MARATHONS OF THE MIND

From tiny little word puzzles called riddles to elaborate puzzles called mystery novels there is really great intellectual growth. This growth is nurtured by fun: the fun of solving puzzles.

In recent years problem-solving puzzles written or developed on massive scales have become the intellectual pastime for a large number of young and old people throughout the world.

On the one hand such brainstorming, role-playing activities as the Dungeon and Dragon style puzzle/games have become extremely popular. These situation games require intense researching and reading skills which are now only beginning to astound teachers. How is it possible that a child who can't read SEE PUFF RUN can not only read very technical books on mythology but apply that learning to problem-solving situations?

On the other hand we have - COMPUTERS! - the greatest friend a teacher (particularly those of us harried by fragmentation) ever had.

Besides being electronic flashcards and word-processors and educational development tools (i.e., Beginning Grammar, Reading Rally, Dragonmix, Logo II, et al), the computer can serve as an excellent reading/writing/problem-solving tool. This tool gets students *involved*. This tool is known, jargon-wise as interactive fiction. But, to the novice, it is simply identified as text adventures: No graphics except those in the mind.

Most educators who have been using these games in the classrooms with any regularity have agreed that different approaches to the game (henceforth known as the adventure) are varied and effective. Most teachers prefer a group of three to five youngsters on the adventure one at a time and that there should be almost no teacher intervention once the programs have been explained and the classroom structure has been established.

A good place to start for most computers would be Scott Adam's ADVENTURES. Pirate Adventure (the text version) is probably the best to start with. With our 99/4A, of course, we might even start with simpler adventures like FOUR VEDAS which aren't available for other computers. Others in that series include MINER 49er, FUNHOUSE, HAUNTED HOUSE, and STONE AGE.

Once the game is loaded there is a certain structure usually followed by most adventure programmers: At the top of the screen the scene is described in a manner similar to this: *You are in a small dark room. There is a square patch of light in the distance. ShriII, high-pitched noises can be heard above your head.*

Directions: S W U

Then there is a flashing cursor. The players must decide what to do. They all assume the role of the one character. Everything is perceived from that person's perspective.

Now the character may be directed to go UP or South or West or take an INVENTORY or LIGHT CANDLE (only if he/she has one and matches to light it with) and LOOK ROOM. (Most commands, as you can see, are given in abbreviated form in adventures. This helps the game move faster. Usually commands require only the first or the first three letters: W or INV. To perform specific actions (or reactions) usually requires a two-word situation: verb/noun. CLIMB TREE, GO HOUSE, PICK NOSE, TAKE KNIFE, EAT SOUP.

Very high level games, such as those created by Infocom, allow you to write complex multiple commands in sentence form. Some of their games (the ZORK series, Hitchhiker's Guide to the Galaxy, Suspended) may take adults months. Although they are marvelous they probably would not be suited to classroom use. (Many elementary school children, alone or with their families DO these incredible adventures).

Meanwhile, back in the classroom, if you have one or two computers going with adventures, you will note an enthusiastic brainstorming at a very profound level. This is an exciting thing to watch. This kind of experience can be easily translated into other kinds of reading, writing, problem-solving, brainstorming experiences.

Depending on the amount of time you allow a group to participate will depend on how many days it takes to complete the adventure. It is an unusually rewarding experience for the youngsters and one which motivates the next group ready to start their adventure (the same or another; it doesn't matter). A beautiful side effect is the sharing that goes on.

There may be individuals who can attempt a solo adventure for some good educational reason, too. The children will volunteer to work on the program during lunch and recess.

Adventuring turns on kids. And it's impossible to keep a turned-on kid from learning. (An excellent classroom environment is provided for computer-use also.)

There are other kinds of adventuring too. The D&D-style slash & hack appeals to most youngsters. There are two that stand out for the TI: TUNNELS OF DOOM and the extraordinary one, LEGENDS. TOD is superb because you can get TOD editor, which lets you create your own adventures; and LEGENDS is great because it is, simply, *the best of the S&H adventures around*. The graphics are superb, the options are excellent, the potential for growth is built in, and the "real world" geography is unmatched by any other similar game.

Now, for your own adventuring. There are an incredible number of adventures for the TI, depending upon what one condisers an adventure.

If it's an all-text thing, then Tunnels of Doom and the great LEGENDS would not be. Thus, some adventures have graphics. But are all-text programs adventures? If so, one would have to include ELIZA (which all but seven people in the world have played) as an adventure. It certainly is an adventure of the mind, though no goals are set and no end results. Maybe psychological wanderings shouldn't be adventures.

Do adventures have to take place in the middle ages (or pseudo Middle Ages)? If so, then some of the very best adventures from INFOCOM (Hitchiker's Guide to the Galaxy, Suspended, Witness, etc.) wouldn't be. But are. One Tunnels of Doom game takes place in K-Mart.

What then are adventures? Well, I think they must allow the user to make decisions that can change the course of the game. That's 1:player decisions. I think there has to be reactions to those decisions that are logical (even in a nonsensical fantasy a certain kind of logic must exist). I think there has to be a pre-determined (early in the game) mission. A goal. There has to be a set of tasks successfully completed to reach that goal. There has to be punishment of some kind for failure (or failure to take risks). There must be reward for achievement of the goal.

Basically, that's it. But there's still a problem. If you have Art Auction or Car Dealer or Lemonade or Gone Fishing or any number of small programs like these that have you make decisions (usually built upon other decisions), most of the above would apply: text, decision making, reaction to decision, goals (to achieve so much money or fish), punishment (bankruptcy or drowning), reward for successful achievement. Most throw in a thwarting agent too. (Storm in Gone Fishing, other bidders in Art Auction, rain in Lemonade.

So are these adventures? Certainly more than ELIZA (which I consider a form of an adventure), but they are not what many adventure players consider adventures.

There must be more -er- exotic environments: space, jungles, funhouse, battlefields (Watch it! The game Civil War might be considered an adventure.), Wonderland); exotic times (the 30's, prehistoric times, the future); Exotic characters (pirates, bugblatter beasts, K-Mart customers); exotic situations (saving the world, getting a cup of tea, understanding a computer poet, finding treasure).

Which brings us to the mazes which are adventures (Zork being the most famous) and mazes (Cat and Mouse) which are not; treasures which are adventure goals (Dungeons) from treasures which are goals but not adventures (Blackbeard's Treasure).

The criteria for "true adventures" if there is such a thing, is vast and not always something which people agree on.

All this, as you probably figured, is leading up to something.

Mickey Schmitt, the world's leading expert on TI Adventuring, is putting together for publication the ENTIRE adventure world on the TI. Every adventure ever written for the TI -Commercial, Fairware, and Public Domain. This is a vast undertaking.

If any readers have any Fairware or Public Domain adventures, please gather them on a disk or two (preferably with a TI Writer file to go along with it, giving the title, whether it requires the XB, ADVENTURE MODULE, TUNNELS OF DOOM, E/A or just plain BASIC), and a short description (in case I have the game under a different title or want to categorize them by theme) and mail them to me. I will see that Mickey gets them. I will also sent you back an equivalent number of disks with suitable PD and/or Fairware games for your efforts

in this monumental task.

Games released by Scott Adams, Asgard, Infocom, Steve Davis, A.S.D.&E., Donn Granros are copyrighted materials and may not be copied and sent. They have been purchased for this compilation.



MEETING MINUTES OF PUG 2/19/89

Librarian Harper gave her Report. She informed us that the Library has a new Funnelweb disk, version 4.13. Among other features, it has an 80-col. Editor. It will be exchanged to members who have the 4.11 version with the old disk. Also, in Drednot, one file contained therein prevents it from being used more than 5 times.

SYSOP Kelly reported that we are now using System 2.0 with a lot of success. There will be no need to have new registration of passwords and ID Nos. The BBS has 51 active users. It has had 770 callers.

Pres. Taylor gave his Report:

He introduced new Members Ray Wallis and Richard Devlin.

Former member Red Olsen is selling his equipment.

There is a group from the PUG going to the Roselle Faire March 18.

Bud Mills is scheduled at the next meeting to talk about his Horizon Ram disk.

He passed out an index for the TI Base reference Book. An Up-dated, revised book for TI Base is available. He will investigate ordering it for Members on a quantity discount basis. A tutorial on TI Base written by Martin Smoley on 3 disks will be available from our Library. He passed out paper copies of the first tutorial. A Special Interest group on TI Base will meet under the auspices of the PUG from 4:30 to 6:00 in March.

Bill Krieqer has consented to serve as Membership Chairman and try to improve the quantity of members in the PUG. He will be looking for help. So volunteer!

OLD BUSINESS:

The program to get un-used TI computers into the hands of Libraries for their use is underway. Herb Reich is developing this program. Three groups are interested--2 libraries and one literacy group. He has contacted the Boy Scouts and requested that they be involved in collecting the computers.

NEW BUSINESS:

John Willforth announced that new Grom Connectors can be installed in our consoles. A sheet was passed around for orders. Members would make the installation at home.

The following nominations were made for officers of the PUG:

President--Gary Taylor

Vice President--Jim Alexander, Mike Sealy

Treasurer--Frank Shoemaker Secretary--Herb Reich

Cor.Secretary--Audrey Bucher Librarian--Susan Harper

It was moved, seconded and passed that nominations be closed.

The Bingo prize, Joy Paint was won by Gene Kelly.

The following demonstrations were given:

Gary Taylor--Maze of Grog, Jiffy Flyer and Valentine game

Art Gardner--TI Tax--a program for filing your income tax

Respectfully Submitted Herbert H. Reich, Rec. Sec.

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

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	

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

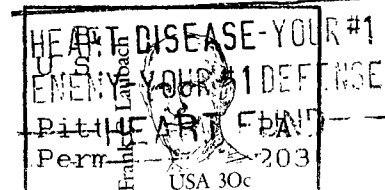
APRIL 1989						
S	M	T	W	T	F	S
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2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

PUG OFFICERS		
Pres:	Gary Taylor	412-341-6874
V Pres:	Jim Alexander	412-441-6762
Treas:	Frank Shoemaker	412-921-8702
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	TI Base Sig with Audrey & Lynn.....Rm. 482
6:00-?	General Meeting
SEE YOU THERE	



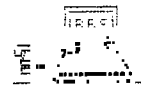
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