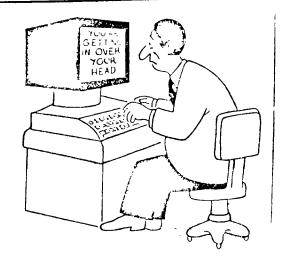## NEXT MEETING

THE NEXT MEETING OF THE PUG WILL BE ON JUNE 17, STARTING AT 4:00 WITH OUR CLASS PROGRAM. PLEASE NOTE THE FOLLOWING CHANGES IN THE CLASS SCHEDULE. BEGINNING WITH THIS MEETING THE FORTH CLASS WILL BE FROM 5:00 TO 6:00 AND THE EXTENDED BASIC CLASS WILL MEET FROM 4:00 TO 5:00. BASIC CLASS WILL RUN FROM FROM 4:00 TO 5:00 (INSTEAD OF 5:30) THIS MEETING ONLY. TI WRITER WILL BE FROM 5:30 TO 6:00. THE TIME FROM 6:00 TO 7:00 WILL REMAIN RESERVED FOR SPECIAL INTEREST GROUP MEETINGS,ETC. SIG'S ARE INTENDED FOR NON-STRUCTURED DISCUSSION AND PROBLEM SOLVING. ALSO, IF A VOLUNTEER IS AVAILABLE TO SUPERVISE OPERATION OF THE DISK LIBRARY, THE LIBRARY WILL BE AVAILABLE FOR COPYING FROM 6:00 TO 6:55. THE BUSINESS MEETING AT 7:00 WILL ADDRESS ITSELF FIRST TO THE UNRESOLVED MOTION OF A NEW ELECTION FOR OFFICERS TO SERVE THE REMAINDER OF THE FISCAL YEAR. AS MANY OF YOU MAY KNOW, THE ELECTIONS FOR THE PAST TWO YEARS WERE TECHNICALLY INVALID BECAUSE OF THE ORIGINAL BYLAWS. THEREFORE,THOSE OFFICERS "ELECTED" THIS YEAR WERE DECLARED TO SERVE AS APPOINTED UNTIL A NEW ELECTION COULD BE HELD. NOMINATIONS WILL BE REOPENED AT THIS MEETING FOR ALL OFFICES, AND ALL OFFICERS NOW HOLDING OFFICE WILL BE CONSIDERED TO BE NOMINATED. DUE TO THE RESIGNATION OF THE LIBRARIAN, WE WILL NEED NOMINATIONS IN PARTICULAR FOR THIS OFFICE. THOSE WISHING TO SERVE IN ANY CAPACITY SHOULD MAKE IT A POINT TO HAVE THEIR NOMINATION ENTERED. ELECTIONS WILL BE HELD AT THE JULY MEETING, AND RESULTS WILL BE ANNOUNCED AT THE SAME TIME. HOPEFULLY, THE ADVANCEMENT AND ENHANCEMENT OF THE CLUB WILL THEN BECOME THE ONLY THING OF IMPORTANCE TO OUR GROUP.

CLUB DISCOUNTED CASSETTES WILL BE AVAILABLE AS WILL THE DOM AT THE DESK BEFORE THE MEETING, WE WILL HAVE OUR USUAL FREE DOOR-PRIZE AT THE MEETING, AND OUR DOLLAR RAFFLE THIS MONTH WILL BE FOR EITHER THE UNRELEASED COLLECTOR'S ITEM OF LASSO ON DISK, OR THE BOOK AND CASSETTE FROM SAMS CALLED ENTERTAINMENT GAMES IN TI BASIC AND XB. (CHOICE TO THE WINNER) MOST OF YOU WILL REMEMBER THE ENTERTAINING DEMONSTRATION OF LASSO FROM THE MAY MEETING.

WE HAVE AN OPEN SCHEDULE THIS MEETING, SO IF THERE IS SOMETHING YOU WOULD LIKE TO DEMONSTRATE ETIHER AS A DEALER OR MEMBER, PLEASE BRING IT ALONG. WE LOOK FORWARD TO SEEING ALL OF YOU AT THE JUNE MEETING.

FROM THE PRESIDENT

Hi,everyone. Well it's summer, and time for all those other terrible
distractions that keep us away from the vitally important business of
programming! Like basking in the sun, or lounging beside or in a pool,
or camping trips, or fishing or vacations or gardening. Well, this year
we've decided to ban all these activities so that all PUG members will be
able to devote one hundred percent of their time to the club.

Right!! This is gonna happen about the same time as the underworld freezes
over. A perfect example is the lateness of the newsletter this month for whom
yours truly is totally at fault. Between trying to survive the heat and doing
all the other things summer requires of me, I just have put it off.

Enough beating of cheast. To business: Don't forget the special election at
the June meeeting. Nominations will be reopened for all offices and especially
needed will be nominations for librarian. Please check the new bylaws for the
responsibilities of each office. Also, I think we need a little bit of
organization of the SIG's. Will someone involved with each group contact me so
that I know what groups are meeting and where between 6:00 and 7:00. While on
the subject of SIG's, would someone tell me please whether or not we have a
PASCAL special interest group. It was mentioned for a while before I took
office, but I have never heard any more about it?? Also, I'd sure like to see
interested people organize a LOGO group.

I'd also like to hear your opinions on establishing a PUG BBS system. Ideas
for financing,etc. Call me or collar me at a meeeeting or whatever. Also, we
are trying to secure a reserved room at the CCAC for a week night. We don't
 have it yet, and maybe won't get it, but if successful, it will be available to
SIGs.

I'm going to bring an additional system to the June meeting so that equipment
will be available from 4:00 on for non-structured uses, like swapping a program
betweeen members, etc. I hope that it will be used as carefully as your own.

Finally, two sour notes to blow. 1) I find it outrageous that anyone would
stoop to theft from the group. The book stolen last meeting was not a
Gutenberg Original Edition Bible, but it was group property, and belonged to
the membership. 2) I've suggested it several times before, but we are in need
of donations for our Doorprize Raffle. Surely, there is some cassette based
program lying on your shelf that you have long ago backed-up to disk, or a
module that you or your kids have outgrown, or even a book that you have
memorized from cover to cover. I'm not addressing the 1% that have given
 already, although their help is always appreciated, I'm talking to the 99% who
hven't found anything yet to contribute. How about it?? By the way, I also
remember a time when dealers kicked in a donation from time to time (gift
certificates, or a program or something)!

See you at the meeting, or if not "Happy Father's Day".

Roy T Carlson pres

!!!HELP WANTED!!!

WANTED: Artist types, to design a club logo and signs
WANTED: Teachers, to substitute as needed for classes
WANTED: Speakers, to talk on any computer related subject
WANTED: Organizers, to get the Creative Programming idea going
WANTED: Assistant treasurers, to give one hour at meeting
 WANTED: Strong backs to be at CCAC 1/2 hour before meeting to unload and set up
        equipment.
WANTED: More strong backs to help close up after meeting.
WANTED: Telephoners, to contact members in their immediate area by phone.
WANTED: Public Relations Person, to actively seek ways to make us more visible
        to all TI owners in Pgh.

Please contact any officer if you can fill any position, or any other you may
think of.

Troubleshooting the TI--Some Common Problems

Documentation for TI troubleshooting is nil, making word-of-mouth the only way to spread solutions to common problems around. These problems (and their respective solutions) have been piling up here for a long time, so I figured it would be beneficial to release one or two every so often.

Keyboard Mayhem: Keyboard trouble is rampant throughout TI-99/4A users. Symptoms are repeating keys (getting multiple characters for only one press of a key), a non-functioning key, or a whole row/keyboard of non-functioning keys. These three problems can be traced to the same root: distorted or dirty contacts. Some keys are wired in a string, so if one 'cornerstone' key goes, the whole row will. To solve the problem, carefully pry up the troublesome plastic key to reveal the contacts.(DO NOT TRY THIS WITH BEIGE CONSOLES BECAUSE THEY USE KEYS THAT DON'T DISMANTLE).. Compare the contacts with a fully working key and adjust appropriately. Enough fiddling should produce the desired result. Once anyone has seen what the console looks like under the keys, it is hard to stop them from a Lysol spree. The amount of dirt, dust, hair, etc., that accumulates under the keys is incredible. Do not try to clean the contacts with a pencil eraser! There are certain products available for the preventive cleaning of your keyboard, such as miniature brushes and even vacuum cleaners. I have found the best preventive medicine to be a dust cover.

Disk Drive Woes: This problem is a little less common (A smaller percentage of TI users have disk drives in the first place), but is nonetheless worthy of note. The old style TI disk drives have a pop-open door which releases by means of a button. This tends to loosen any wires, etc., that may be attached directly to the door or its supporting spur. The component most susceptible to this jarring is the index hole detector. This is a small sensor which is used to find the small hole that is on the lower right side of the large hole. The only time this sensor is used is when a disk is being initialized. A disk is initialized in order to prepare it for use by the TI-99/4A. Every computer uses its own format to initialize a disk; this is why most new disks are unformatted. Anyway, if your drive ever experiences symptoms whereby a disk can be read from (read in programs, data, etc.) and written to (SAVE program, etc.) yet cannot initialize a disk, the jarred sensor is most likely to be the cause. The first and most common cause of disk drive problems is the data cable, so be sure to check that it is secure before attempting to open your disk drive. If the cable appears to be okay, you can proceed to disconnect the disk drive, take off its outer covering, and solder the sensor back into place. Put a disk into the drive and look where the index hole is to see where to stick your soldering iron! My drive held for a few days with plastic tape until I could find someone who had a soldering iron I could borrow. If you have more questions about this operation, by all means contact me before you dismantle your disk drive! Warning: If your drive is still under warranty, it would be best not to touch it. Juggling the innards of a disk drive would surely void the warranty. Otherwise, you have nothing to lose.

Next Month: Joystick Plight

For the TI-Writer group which I had the pleasure of hosting last month: The <CTRL> U function of sending control codes to the printer works fine. It was just that we were sending the wrong codes to begin with. Also, be prepared for a TI-Writer spelling checker which will become available soon. I'll elaborate on this next time I work with the TI-Writer group.

For all of you who saw the game LASSO at the last meeting, it will be available soon in the form of a door prize, Disk-of-the-Month, or some other special exchange. We'll have more of those excellent Assembly programs at upcoming meetings. Remember that a disk drive, 32K memory expansion, and the Editor/Assembler module are required to run these special programs.

Since the June meeting of the PUG is on Father's Day, I won't be there, so it may be an extra month before we can get the telecommunications group started. If there are enough bona-fide members of the group, we have a good chance of getting the BBS demonstrated at the last meeting up and running 24 hours a day.

Next month I'll have some more undocumented (even on CompuServe, etc.) CALL LOAD codes to share along with some other surprises. If any crises arise (computer-related only, please!) you can reach me at (412)731-4895. Happy computing and happy Father's Day. Sorry I can't make the meeting.

Jonathan

TI-Writer Tip

Have you ever wished that your printer had some special
character or symbol such as Greek letters like pi or alpha, or a
division symbol, or superscripts or subscripts? Well, if your
printer has dot graphics capability and allows you to mix text
and graphics on the same line, then you can use TI-Writer to
create characters which you define and print them in documents
you create. Before getting into details I should explain that
all information in this article specifically relates to the TI
99/4 impact printer. I assume that it would also be applicable
to an Epson printer with Graftrax. If you have another printer
with the above mentioned capabilities you can still do what is
described below. However, I would suggest that you read your
printer manual to find out how your printer does each of the
things mentioned. If anything is done in a different manner you
will have to modify the procedure to take this into account.

First of all you must make sure that your printer is ready
to receive graphics data. You may have to remove the cover from
your printer and change the position of a DIP switch so that the
printer can receive 8 data bits. Check your printer manual for
instructions on how to do this. After you have made this change
it would be a good idea to try any graphics demonstrations which
might be provided in your printer manual to make sure that the
graphics mode works properly. Finally, if your printer is
connected to the serial port of the RS232 interface, you will
need to include .DA=8 in your file description every time you use
the printer.

```
┌─┐ 128
├─┤ 64
├─┤ 32
├─┤ 16
├─┤ 8
├─┤ 4
├─┤ 2
└─┘ 1
```

Printer graphics consist of one or more columns of dots.
There are a total of 480 such colums across a page. Each column
is 8 positions high and a dot can appear in any one of the 8
positions. Each position has a data value associated with it as
shown in the figure above. The data representing a particular
column is simply the sum of data values for all positions where a
dot is to be printed. For example to print a column where only
the top dot is printed would require a data value of 128. A
column in which both the top and bottom dots were printed would
require a data value of 128+1 or 129. A column which had all 8
dots printed would require a data value of 128 + 64 + 32 + 16 + 8
+ 4 + 2 + 1 or 255.

Now let's create our own graphics character and see how we
can incorporate it in a document prepared from TI-Writer. Let's
make an arrow pointing up as our special character. The normal
characters built into the printer are as wide as 6 columns of
graphics (480 columns/80 characters) so let's make our character
the same size. It's helpful to draw the character on graph paper

so let's do that.

The data for the columns from left to right is 0, 32, 126(64 + 32 + 16 + 8 + 4 + 2), 32, 0, and 0. (You might find it useful to know that the normal text characters of the printer do not use the column on the right(to prevent characters from running into each other) or the row on the bottom (except in lowercase letters with descenders). To send the graphics data to the printer we first need to send a control code. For normal graphics mode this is of the form ASCII codes 27,75,n(1),n(2). n(1) and n(2) define the amount of graphic data which will be tramsmitted. This represents the number of columns of dots which will be printed. If N is the number of columns of graphics then n(2) is the integer value of N/256 and n(1) is N MOD 256 or the remainder of N/256. For our special character n(2) is 0 and n(1) is 6. The graphics data follows immediately after n(2). The complete string of ASCII values needed to print our special character is therefore 27,75,6,0,0,32,126,32,0,0.

We will create the special character using TI-Writer by using the transliterate command. We will use some character we won't be using such as ~ and transliterate it to the string of data we mentioned above.

0001 .TL 126:27,75.6,0,0,32,126,32,0,0

We can now use our special character in a document. If we were writing directions for using a program where pressing the E key moved something up on the screen we could write the following.

0002 ~ Press E

If we print this short file using the text formatter we will get the following

† Press E

Using special characters which are six graphics columns wide allows you to still be able to use the .AD and .CE commands even if special characters are present in the text. If you are not going to use either of these commands you can make your characters of different widths than 6.

Using the method just described you can design almost any character that you might desire. Unfortunately, the values 8 and 12 and 13 cause problems which disallow their use for graphics data using this method. You may have to modify your character to avoid these values.

Norman Rokke

ZIP CODE!

Here's a little subprogram that will add some zip to your extended Basic programs!
Let ZIP$ = your message. It can be made to zip across the screen at any row. To change the row, change the variable in line #200. You can also change the speed variable in line #190. Decrease the value of SPEED to make your message move faster.

```
100 CALL CLEAR
110 ZIP$="ATTENTION --THIS
METHOD OF DISPLAYING IMPORTA
NT INFORMATION WILL ADD A LI
TTLE ZIP TO YOUR PROGRAMS. P
RESS ANY KEY TO GO ON..."
120 GOSUB 190
130 ZIP$="PRESS B TO SEE THE
 TOTAL NUMBER OF BANANAS REM
AINING...PRESS P TO PICK A N
EW BANANA...C TO CATCH THE M
ONKEY...Q TO QUIT."
140 GOSUB 190
150 IF KEY=ASC("B")THEN PRIN
T "YES WE HAVE NO BANANAS!"
160 IF KEY=ASC("P")THEN PRIN
T "YOU HAVE PICKED A NEW BAN
ANA"
170 IF KEY=ASC("C")THEN PRIN
T "THE MONKEY IS TOO FAST...
.. HE GOT AWAY-
   BETTER LUCK NEXT TIME"
180 STOP
190 SPEED=10
200 ROW=20
210 ZIP$=RPT$("  ",28)&ZIP$
220 FOR CH=1 TO LEN(ZIP$)
230 DISPLAY AT(ROW,1):SEG$(Z
IP$,CH,28)
240 FOR SLOWER=1 TO SPEED
250 NEXT SLOWER
260 CALL KEY(0,KEY,STATUS)
270 IF STATUS<>0 THEN 300
280 NEXT CH
290 GOTO 220
300 DISPLAY AT(ROW,1):RPT$("
  ",28)
310 RETURN
```

Bob Trautman, member PUG 761-9380

The Adventure Realm

Third-Party Adventures Demystified

As you know, I have talked on and about the Scott Adam's Adventure Series. "What about all of the third-party adventures?", you ask. Well we will look into the realm of this type of adventure now.

Third-party adventures are basicly the same as the Scott Adam's adventures, but they have a few disadvantages. First, since they are programmed in BASIC or Extended BASIC, they are almost always very and even annoyingly slow. Because Scott's adventures are in Assembly Language, they are very fast and easier to work with. Another problem with a third-party adventure is that it is usually not very "user friendly." While the Adventure Series has responses like "I can't do that.", "I don't know what something means", or "I don't have that.", the other adventures quite frequently just fail to put these in their programs. Instead, they just ask you for another input if it didn't like what you said the first time.

On the other hand, most third-party adventures have some advantages that the Scott Adam's games don't have. The first of these is the price. Most of the third-party adventures are priced somewhat lower than the regular Adam's adventures. Another advantage is that they are not usually protected and are listable. The listing aspect lets you take a peek at the internal workings of the adventure game. This could be of help to you if you are stuck on the adventure for quite a while-but only then! The other part of this is that they are mostly unprotected and are able to be copied-for back-ups only of course!

I've only had a chance to try my hand at four third-party adventures. These indeed were slow and not very "user friendly." They were, however, somewhat easy to solve.

So if you want some adventuring fun outside of the Scott Adam's Adventure Series, then try your hand at some of the many third-party adventure games.

Having problems with a Scott Adams's adventure or a Third-Party adventure? Then call me, Keith, at (412) 469-1713 or write to:

The Adventure Realm
c/o P.U.G.
P.O. Box 18124
Pittsburgh, PA 15236

POKING AROUND WITH FORTH AND DISK-FIXER

Several members at the May PUG meeting expressed the strong desire to create
personal backup copies of disk-based programs they had purchased. Increasing
numbers of these programs are "protected" against such copying. However, there
are several methods available to make personal back-ups. REMEMBER!! COPYRIGHT
LAWS FORBID UNAUTHORIZED DISTRIBUTION OF SUCH COPIES FOR FUN AND PROFIT. (ed.
note...piracy only benefits the pirates until the last treasure ship is sunk.)

METHOD #1   FORTH

FORTH contains the simplest, most general utility for copying disks screen by
screen (4 sector groups) without regard to contents. It will even copy disks
which the Disk Manager does not recognize as being formatted. The key FORTH
word is SMOVE. The following sequence should work in any two-drive set-up.
Actual screen numbers can be used instead of DISK_SIZE (i.e. 90 or 180 if you
modified FORTH for double sided disks). After loading TI-FORTH, place disk to
be copied in first drive and back-up disk in second. Then...

0 DISK_LO ! (to enable copying of first sectors)
0 DISK_SIZE 1+DISK_SIZE SMOVE

Disk drive light should start on first drive, then alternate between second
and first eighteen times for single side transfer and thirty-six for a double
sided disk. When copying a ss disk on a system set up for ds, use 90 instead of
second DISK_SIZE in SMOVE command. Leave or place WRITE-PROTECT TAB on original
disk to prevent any accidental changes to originals.

METHOD 2 DISK-FIXER

DISK-FIXER is a utility available from Navarrone Industries, previously on disk
and now only as a module. It is available through some local outlets. It
provides the facility to easily inspect, list, or change byte-by-byte any
    sector on a disk. A map to some of the standard format structure is provided
but not the protection code. That is an exercize "left to the student". I
have completed the exercize: to change a disk from "protected" to "not" for
copying with Disk-Manager 2, byte 10 on sector 0 must be changed from 50 to 20.
This is easily done following DISK-FIXER instructions, but does require
removing the WRITE-PROTECT TAB and changing the original disk. ANY ERROR AT
THIS STAGE COULD BE FATAL TO THE CONTENTS OF THE ORIGINAL DISK!! Such
vulnerability can be avoided by sector-to-sector reading from one disk and
writing to another but this is tedious, error prone, and much inferior to the
FORTH equivalent method.

DISK CUSTOMIZATION - MULTI-PLAN

One of my hobbies is customizing programs I use frequently to my own system and
needs. MULTIPLAN normally requires initialization for dual disk drivees and
PIO each time it is booted. Poking around with DISK-FIXER fixed the default
configuration right on my back-up TIMP disk. The I/O parameters are seet up
onthe MPINTR program file which interpretation of the disk directory shows
    begining at sector 010F on my disk. Sector 0110 contains the only rcognizable
(ASCII interpreted) information, namely the dsk and printer names. To change
the default data file disk from DSK1 to DSK2 use DSK-FIXER to change the word
beginning at address 0058 from 4B31 to 4B32. Likewise, to change the printer
chnge the words beginning at 00BE to the ASCII code for PIO.EC: 5049 4F2E 4543
2020 2020 2020. A similar change can be made on DISK-FIXER itself (on disk
only) at sector 23.

As you can see, poking around disks with DISK-FIXER can be a great
  adventure..I'll report more in a later issue. Meanwhile, I'd like to hear from
anyone who can acheive printer control codes from within MULTIPLAN or through
SYLK files.

TED ANDERSON, MEMBER PUG 881-7416

FROM THE LIBRARY

The June DISK OF THE MONTH will require the MUSIC MAKER CARTRIDGE. The programs were donated by Keith Bajura. In the DOM you will find:

AQUARIOUS * DYNASTY * HILL STREET
ENTERTAINER * MASH * MOZART'S 40

Also, there are new forms available from the library or at teh Computer Bug for submitting new programs to the library. Please fill it out as completely as possible.

Also, If you have received any programs from the Library Disks or tapes which contain bugs, lack instructions, are actually a file belonging to another program,etc, please advise library. On the flip side, if you have a solution, or know how to operate undocumented programs, don't keep it a secret. We are going to start publishing these problems and solutions in the newsletter.

Also, the club is in need of new programs. Lets all pitch in!