The PUG PERIPHERAL

The monthly newsletter of the
Pittsburgh User's Group

The President's Letter

Well, this is my first letter as president of the Pittsburgh User's Group. For those of you who were not at the September meeting I will try to bring you up todate on your club. This summer 4 of the 6 officers resigned their position for various personal reason, which left a sizable void in the on going business of the club. The by-laws of our organization in article 5 section 7 states that "In the event both the duly elected President and Vice President shall be unable to complete the President't term of office, a special election shall be called at the next membership meeting". Therefor, a slate of candidates was presented to the club and since there were no additional nominations the election was deemed uncontested and is considered official by acclamation. Those elected to serve out the current terms, which expire in March, 1988 are as follows:

PRESIDENT --> Gary Taylor

VICE PRESIDENT --> Jim Alexander

TREASURER --> Frank Shoemaker

COORESPONDENCE SECRETARY --> Audrey Bucher

LIBRARIAN --> Susan Harper

Our RECORDING SECRETARY remains Herb Reich, who was elected in March. The new officers will serve until the general election in March, 1988

MISSING NEWSLETTERS. There were no newsletters for the months of August or September, 1987. We are sorry for not being able to supply the newsletter during this period but things should be on track now that we have a new newsletter editor -- Audrey Bucher. Audrey's first newsletter will be published in November so lets give her all the support we can.

If you would like to write an article for publication please feel free to submit it to Audrey at least 3 weeks before the next monthly meeting. You can submit articles on anything that pertains to the TI99 or compatibles. Software reviews, hardware projects, helpful hints are just some of the topics that you can write about.

DUES ARE DUE. I have reviewed the membership list and have found that many have not paid their dues for some time. The address label on the newsletter contains the date that your dues are to be paid. This will be the last newsletter for those who are more than two months behind. Please note the change in address for the club when submiting your dues by mail. P.U.G. PO. BOX 8043 PGH, PA 15216.

SOFTWARE NEWS

from the library by gary taylor

In July I added two new faireware disks to the club library, TI-SINGS and STAR. As promised, I have added two new public domain programs to the clubs library, FONTASTIC and ANIMATOR.

FONTASTIC was written by Mike Stanfill of Dallas, Texas. This program won third place in Computer Shopper's programing contest awarded in February of this year. Mike has graciously released his program to the public domain for "THE BETTERMENT OF ALL MAN-KIND". This program will allow you to re-design an entire character set which can then be save to disk and used in your basic or extended basic program. There is a second feature that will convert the character set file into assembly language source code which can be assembled into a 'CHARA1' file. You are no longer forced to use the character sets that come with programs like TI-writer or Faest-term but can change them any way you want to. Mike's program, once loaded, is menu driven and includes a selection for displaying or printing the instructions. You can load and save the character set you are working on to disk so that it is easy to pick up where you may have left off. While you are working on a specific letter you can choose a selection that will instantly show the results of your efforts. The program is written in extended basic.

ANIMATOR is an interesting graphics program written by Mike McCann of Omaha, Nebraska. Mike is also the the auther of The Printer's Apprentice and a newly released package called TPA Toolbox, both which can be ordered from McCann Software, PO Box 34160, Omaha, NE. 68134. This program, however, will allow you to create multiple graphic images with your joy stick and then activate a function that will quickly display them. This give the illusion of motion on the screen. The program did not come with a documentation file, so I called the author and he said that this program is menu driven and he did not see the need for a doc file. All you hackers will have fun with this one trying to find out what each key does. This is a fairware program. I thought it was public domain. I talked with the author and he is very disappointed with the response he has received from his first faireware offering. However, I must admit that without a documentation file and a couple of starter files (it comes with one) the program is not as one would expect from a professional software author.

Both of these these programs are on the same disk - GRAFFX3008

The catalog of the the new library has been completed and will be available at the next meeting. The old library no longer exists. I did not use any of the old disks from the old library to build the new one. So many of the programs will be new to the club. I will merge the old library into the new one after a better catalog is developed. I have a new format for a catalog but it will be awhile before you get a peek at it.

"TIPS FOR BEGINNERS"

-BY FRANK N. ZIC

HERE WE GO TOGETHER-5. THE FOLLOWING COMMENTS ARE JUST RANDOM NOTES THAT I HOPE YOU WILL FIND USEFUL IN SOME WAY. IT IS HARD TO GET ON TRACK AGAIN AFTER TWO SUNSHINE, FLOWER FILLED WEEKS IN HAWAII.

BE CAREFUL WHEN LOADING GAMES THAT CAN BE LOADED OUT OF XB OR E/A. CHOOSE EDITOR ASSEMBLER NO. 5(RUN) AS THIS SEEMS TO PROVIDE ALL THE GAME FUNCTIONS AND SCORING, WHILE LOADING IN EXTENDED BASIC DOES NOT. EXAMPLES: (A) DIGDUG - A TWO PART GAME LISTING WITH TWO (33)SECTOR PARTS, IN PROGRAM MODE. WHILE THIS GAME CAN BE LOADED AND PLAYED IN XB, IT DOES NOT KEEP A RECORD OF THE HIGH SCORE ACHIEVED. SOMETHING NICE TO HAVE WHEN TWO OR MORE PEOPLE ARE PLAYING. (B) CANNONBALL BLITZ - CAN BE LOADED OUT OF XB, BUT HERE THE SITUATION IS EVEN WORSE **(YOU CAN NOT WIN)**. YES, THAT'S RIGHT YOU CAN NOT WIN THE GAME EVEN IF YOU STAY ALIVE, AS I DID, HOPPING THE CANNON BALLS ON THE 4TH LEVEL UNTIL THE TIMER RAN OUT. THE GAME JUST CONTINUES WITH YOU NOT ABLE TO REACH THE 6TH(FLAG) LEVEL. WHAT IS MISSING IS A YELLOW BALLOON WITH AN UMBRELLA HANDLE ON IT THAT LIFTS YOU UP FROM THE 5TH TO THE 6TH LEVEL. THEN AT LEAST TWO(2) OTHER GAME SCREENS ARE PRESENTED FOR YOUR SKILLS AND ENJOYMENT. I HAVEN'T TRIED THE THIRD LEVEL LONG ENOUGH TO WIN IT YET. PERHAPS THERE IS STILL A FOURTH GAME SCREEN, I WONDER. LET ME KNOW.

DID YOU KNOW YOU CAN EASILY MAKE YOUR OWN CUSTOM LABELS WITH THE FONT FILENAME(CHAR2)? THE LETTERS ARE 3/8TH OF AN INCH HIGH AND ARE OF THE HOLLOW TYPE. THEY CAN BE COLORED-IN SO THEY ARE EASIER TO LOCATE IN YOUR BOX. SINCE THE (CHAR2_F) FILE ACCEPTS ONLY SEVEN(7) LETTERS, IF YOU NEED MORE YOU MUST RUN THE FILE TWICE AND PLACE THE SECOND PART IN THE CORRECT SPOT NEXT TO THE FIRST PRINTOUT. HOPE YOU HAVE FUN TYPING THESE LABELS.

SOME NIGHT WHILE YOU ARE COMFORTABLY SEATED AT YOUR COMPUTER WRITING A LETTER, ON WITH A "BBS", OR PLAYING YOUR FAVORITE GAME, (MINE IS MIDNIGHT MASON) AND SUDDENLY YOUR CONSOLE GOES BLACK, DON'T DISPARE. IT MAY ONLY BE THE FUSE BLEW-OUT IN YOUR POWER-PAC CORD. IT IS LOCATED IN THE LONG, THIN, GREEN, RECTANGULAR HOLDER LOCATED JUST INCHES AWAY FROM THE POWER PLUG. IF YOU HAVE A SPARE CORD, SWITCH THE SUSPECT UNIT OUT AND YOU MIGHT BE ON YOUR WAY IN MINUTES. IF YOU ARE STUCK WITHOUT A SPARE AND REALLY WANT TO GO ON WITH YOUR COMPUTING, SIMPLY UNPLUG THE CORD AND CUT OUT THE FUSE HOLDER. NOW, PROVIDING YOU KNOW HOW TO DO IT SAFELY, YOU MAY SPLICE AND INSULATE THE WIRES STRAIGHT THROUGH. NOW YOU CAN CONTINUE USING YOUR TEMPORARY REPAIR. IF IT WOULD MAKE YOU FEEL BETTER, YOU MAY PURCHASE A PLUG-IN LINE FUSE.

IF YOU ARE ONE OF THE MOD GROUP THAT IS FORTUNATE ENOUGH TO HAVE THE (32K) ENCLOSED IN YOUR CONSOLE, IT MIGHT BE A GOOD IDEA TO REMOVE YOUR (32K) CARD FROM YOUR "P-BOX". THIS WILL ELIMINATE PRIORITY RIGHTS BETWEEN THE TWO (32K) UNITS DURING CERTAIN OPERATIONS. THIS CAN ELIMINATE SOME NEEDLESS MALFUNCTIONING. THIS WAY TOO, YOU NOW HAVE A SPARE (32K) CARD OR YOU CAN SELL THE CARD IF YOU LIKE.

INCREMENT, INITIALIZE AND FORMAT ARE ALL INTERCHANGEABLE WORDS. UNTIL NEXT TIME MAY THE GOOD 4'S BE WITH YOU.

GETTING THE MOST FROM YOUR CASSETTE SYSTEM
BY MICKEY SCHMITT
NUMBER 7
CLYDE COLLEDGE'S: HIGH-SPEED CASSETTE LOADER
PART I

AS PROMISED... THIS MONTH'S TOPIC IS CLYDE COLLEDGE'S: HIGH-SPEED CASSETTE LOADER. FOR THOSE OF YOU WHO ARE NOT FAMILIAR WITH THIS PARTICULAR PROGRAM... LET ME SAY... IF YOU ARE STILL USING A CASSETTE SYSTEM... THIS PROGRAM IS A MUST! IT IS BY FAR ONE OF THE MOST IMPRESSIVE CASSETTE UTILITIES AVAILABLE TO DATE!

BY WAY OF INTRODUCTION... I WOULD LIKE TO QUOTE A BRIEF PARAGRAPH OUT OF THE TEXAS INSTRUMENTS PROGRAM RECORDER MANUAL: "NOTE: USED WITH T.I. EXTENDED BASIC, THE MEMORY EXPANSION PERIPHERAL CARD ADDS 32 K BYTES OF RANDOM ACCESS MEMORY (RAM) TO THE BUILT-IN MEMORY OF THE COMPUTER. HOWEVER, EVEN WITH THE MEMORY EXPANSION AVAILABLE, THE LARGEST PROGRAM THAT CAN BE STORED ON A CASSETTE IS 12 K BYTES (APPROXIMATELY 12,000 CHARACTERS) IN SIZE. ALTHOUGH THE LENGTH OF THE ACTUAL PROGRAM IS LIMITED BY THE AMOUNT OF AVAILABLE MEMORY IN THE CONSOLE, UTILIZING THE MEMORY EXPANSION UNIT PROVIDES OTHER ADVANTAGES. FOR EXAMPLE, WITH THE UNIT INSTALLED IN THE PERIPHERAL EXPANSION SYSTEM, YOUR PROGRAM CAN BE UP TO 12 K BYTES IN LENGTH, WHILE ANY DATA GENERATED BY THE PROGRAM CAN BE STORED IN THE MEMORY EXPANSION. WITHOUT THE UNIT, THE PROGRAM MUST BE SHORTER SO THAT BOTH IT AND THE GENERATED DATA CAN BE STORED IN THE COMPUTER'S BUILT-IN MEMORY."

NOW THAT YOU KNOW WHAT THE LIMITS OF THE CASSETTE RECORDER USED TO BE ACCORDING TO TEXAS INSTRUMENTS... LET ME INTRODUCE YOU TO CLYDE COLLEDGE'S: HIGH-SPEED CASSETTE LOADER.

THE HIGH-SPEED CASSETTE LOADER UTILITY WAS WRITTEN FOR PEOPLE WHO HAVE ADDED 32 K MEMORY EXPANSIONS TO THEIR COMPUTER. IT IS HOPED THAT THIS UTILITY WOULD MAKE ADDING 32 K MEMORY EXPANSION A MORE USEFUL ADDITION TO BASIC COMPUTER SYSTEMS.

THE ASSEMBLY LANGUAGE ROUTINES THAT DO THE "SAVING" AND "LOADING" OF PROGRAMS ARE LOADED VERY EASILY FROM CASSETTE TAPE AND RESIDE IN AN AREA OF MEMORY NOT USUALLY USED BY EXTENDED BASIC PROGRAMS. THE HIGH-SPEED CASSETTE UTILITY WILL ALLOW THE "SAVING" AND "LOADING" OF PROGRAMS UP TO 24 K BYTES IN LENGTH.

IN ADDITION TO INCREASED PROGRAM SIZE, THE SAME SIZE PROGRAM CAN BE "SAVED" OR "LOADED" IN APPROXIMATELY HALF THE AMOUNT OF TIME THAT THE ORIGINAL ROUTINES REQUIRED. THE INCREASE IN SPEED IS DUE TO REMOVING DUPLICATION OF DATA SENT TO THE CASSETTE RECORDER. WHILE THIS DECREASES RELIABILITY SLIGHTLY, FEW ERRORS HAVE BEEN ENCOUNTERED IN USE AND ERROR CHECKING IS STILL RECOMMENDED. THE SIZE LIMITATION WAS INCREASED BY WRITING DIRECTLY TO THE MEMORY EXPANSION RATHER THAN TO THE CONSOLE MEMORY WHICH THE PROGRAM WAS SENT TO BY THE ORIGINAL CASSETTE ROUTINES.

NEXT MONTH... STILL MORE ABOUT CLYDE COLLEDGE'S: HIGH-SPEED CASSETTE LOADER (INCLUDING COMPLETE PROGRAM LOADING INSTRUCTIONS AND INFORMATION ON HOW TO GET YOUR OWN PERSONAL COPY OF THIS MOST IMPRESSIVE CASSETTE UTILITY). YOU WON'T WANT TO MISS IT!

IN THE MEAN TIME, IF YOU NEED ANY HELP OR HAVE ANY QUESTIONS CONCERNING YOUR CASSETTE SYSTEM - JUST GIVE ME A CALL (412-335-0163) AND I'LL TRY TO HELP.

BREAKING A CARTRIDGE! I received these instructions awhile back and thought I would share them with you. I have not tried it myself but others say it works.

COPYING A CARTRIDGE TO DISK

TO DO THIS, MAKE SURE YOU HAVE THE T.I. DISASSEMBLER, A CARTRIDGE WITH ROM CHIPS ONLY (YOU CAN FIND OUT BY OPENING IT UP, THEN LOOK IF IT HAS LARGE CHIPS ONLY. IF IT DOES, IT IS ROM ONLY. IF IT HAS ANY SMALL CHIPS, TOO BAD. YOU HAVE GROM WHICH HASN'T WORKED FOR ME YET SINCE IT IS IN GPL) EITHER A WIDGIT OR COVER PIN 1 OF THE CARTRIDGE BEING COPIED WITH TAPE (PIN 1 IS THE RIGHTMOST PIN ON THE BOTTOM SIDE). ALSO, A PRINTER WOULD NOT BE NECESSARY, BUT VERY CONVENIENT TO HAVE.

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(1) COVER PIN 1 OF THE CARTRIDGE BEING COPIED (IF YOU HAVE A WIDGIT, THIS IS NOT NECESSARY).

(2) IF YOU HAVE A WIDGIT, PLUG E/A IN SLOT 1, THE CARTRIDGE YOU WANT COPIED IN SLOT 2, TI EXTENDED BASIC IN SLOT 3.

(3) MAKE SURE YOU HAVE A TOTALLY BLANK DISK TO COPY THE CARTRIDGE ON.

(4) SWITCH OVER TO THE E/A CARTRIDGE (EITHER WITH THE WIDGIT OR JUST INSERT IT), INSERT E/A DISKETTE 'A', PRESS 2 (3 ON THE 99/4) TO SELECT LOAD AND RUN, FOR FILENAME TYPE 'DSK1.DEBUG' AND PRESS ENTER. WHEN IT IS LOADED, PRESS ENTER AGAIN AND TYPE 'DEBUG' FOR PROGRAM NAME.

(5) WHEN THE DEBUGGER PROMPT APPEARS, SWITCH OVER TO SLOT 2 (FOR CARTRIDGE BEING COPIED) OR INSERT THE CARTRIDGE BEING COPIED. MAKE SURE THE COMPUTER DOESN'T RESET. IF IT DOES, MAKE SURE PIN 1 IS DEACTIVATED AND START OVER. (WITH THE WIDGIT, DON'T PRESS RESET). NOW MAKE SURE THE DEBUGGER IS STILL OPERATIVE (PRESS ENTER A COUPLE OF TIMES).

(6) NOW TYPE IN 'M6000 8000' AND PRESS ENTER. THE SCREEN SHOULD START SCROLLING UPWARD AND DISPLAY DIFFERENT KINDS OF NUMBERS. IF ALL YOU GET IS '6000=00 00 00 00 00 00 00 00 *********', ETC. OR ZEROS ONLY, MAKE SURE YOU HAVE A ROM CARTRIDGE ONLY, AND THAT YOU ARE SWITCHED OVER TO THE CARTRIDGE BEING COPIED (OR IT IS INSERTED). OTHERWISE, YOU SHOULD BE GETTING ALL KINDS OF NUMBERS. YOU WILL PROBABLY SEE THE TITLE OF THE CARTRIDGE IN THE FIRST FEW LINES AT THE RIGHT. NOW LET THE SCREEN DISPLAY THE NUMBERS FOR AWHILE, AND MAKE SURE THAT EVERYTHING IS OK.

(7) PRESS QUIT, (FCTN =) TO GO BACK TO THE MAIN TITLE SCREEN.

(8) SELECT 2 FOR THE E/A AGAIN, 3 FOR LOAD AND RUN, THEN INSERT THE DISKETTE WITH THE T.I. DISASSEMBLER ON IT, AND LOAD IT.

(9) PRESS ENTER ONCE, THEN TYPE 'START' & ENTER. NOW THE DISASSEMBLER TITLE SCREEN SHOULD APPEAR. NOW SWITCH OVER TO THE CARTRIDGE BEING COPIED OR PLUG IT IN AGAIN. MAKE SURE IT DOESN'T RESET OR OTHERWISE STOP. FOR STARTING ADDRESS, ENTER '6000'. FOR ENDING ADDRESS ENTER '6500'. NOW INSERT THE DISKETTE YOU WANT TO COPY IT ON AND TYPE IN 'DSK1.CART1' FOR THE DEVICE NAME. PRESS ENTER TO START THE DISASSEMBLY PROCESS. THE DISK DRIVE COMES ON, ETC. THE DISASSEMBLED CODE SHOULD APPEAR ON THE SCREEN. FOR EXAMPLE, THIS MIGHT APPEAR: '61FC JNE >6F64 >16F4'. TO PAUSE THE DISASSEMBLING, PRESS A KEY TO PAUSE. PRESS IT AGAIN TO CONTINUE. THE PROCESS WILL CONTINUE FOR AWHILE. WHEN THE NUMBER ON THE LEFT='>6500' OR AROUND THAT NUMBER, THE SCREEN WILL STOP SCROLLING. PRESS ENTER TWICE FOR E/A MENU.

BREAKING A CARTRIDGE (continued)

(10) NOW PRESS QUIT. EITHER PLUG IN THE EXTENDED BASIC OR SWITCH OVER TO IT AND SELECT EXTENDED BASIC. NOW ENTER THE FOLLOWING PROGRAM:

```
100 CALL CLEAR
110 INPUT "SOURCE FILE?>DSK1.":A$
120 INPUT "OBJECT FILE?>DSK1.":B$
130 OPEN #1:"DSK1."&A$,VARIABLE 80,INPUT
140 OPEN #2:"DSK1."&B$,VARIABLE 80,OUTPUT
150 LINPUT #1:C$
160 D$=SEG$(C$,6,27)
170 PRINT #2:D$
180 IF EOF(1) THEN 200
190 GOTO 150
200 PRINT "FINISHED."
210 CLOSE #1 :: CLOSE #2
220 DELETE "DSK1."&A$
```

NOTICE, THIS CANNOT BE DONE IN BASIC SINCE THE 'LINPUT' STATEMENT IS USED. (11) RUN THIS PROGRAM. FOR SOURCE FILE, INPUT 'CART1'. FOR THE OBJECT FILE, INPUT 'CART11'. NOW THE DISK DRIVE WILL COME ON AND IT WILL TAKE AWHILE BEFORE IT IS FINISHED. WHEN IT IS FINISHED IT WILL SAY SO. IF YOU RECEIVE AN ERROR, CHECK TO SEE IF YOU HAVE THE RIGHT DISK INSERTED AND THAT THE SOURCE AND OBJECT FILES ARE VALID. IF THAT ISN'T IT, CHECK TO SEE IF YOU HAVE ENOUGH DISK SPACE AVAILABLE. IF YOU DON'T CHANGE LINE 140 FROM 'DSK1.' TO 'DSK2.' IF YOU HAVE A SECOND DRIVE, OTHERWISE SORRY! YOU MIGHT WANT TO CHANGE LINE 160 SO THAT IT SAVES VARIABLE LENGTH LINES, THUS SHORTENING THE OUTPUT.

WHEN DONE, PRESS QUIT AND INSERT THE E/A MODULE OR SWITCH OVER TO IT USING THE WIDGIT.

(12) INSERT THE E/A DISKETTE 'A' AND SELECT 1 FOR EDITOR. PRESS 1 FOR LOAD FILE. FOR FILE NAME USE 'CART11'.

(13) WHEN LOADED, PRESS FCTN-9 FOR THE EDITOR COMMAND LIST, EXAMPLE: Edit,Tabs,Files,Delete,Insert,Move Copy, etc.

THEN SELECT 'R' FOR REPLACE. NEXT TYPE IN V,1000/A/A/ AND PRESS ENTER. NOW PRESS 'Y' WHENEVER THE CURSOR IS ON A JMP 6??? OR A LI 6??? OR A SB,CB,B,BLWP,LI AND ALL OTHER ONES EXCEPT TWO-DIDGIT (FOR EXAMPLE '6?') OR DATA STATEMENTS. WHEN YOU REACH THE LAST ONE, THE EDITOR WILL BE IN THE EDIT MODE. PRESS FCTN-9 AND TYPE 'R' FOR REPLACE AGAIN. THIS TIME TYPE IN V,1000/7/B/ AND PRESS ENTER. DO THE SAME THING AS THE LAST TIME. WHEN FINISHED, SAVE THIS IN VARIABLE 80 FORMAT ON THE EDITOR COMMAND LIST.

(14) DO STEPS 8-13 AGAIN, CHANGING THE STARTING ADDRESS FOR DISASSEMBLY PROCESS THE SECOND TIME AROUND TO 6500 AND THE ENDING ADDRESS TO 7000, THE FILE NAME TO CART2, SHRINKED VERSION TO CART22 THE THIRD TIME 7000-7500, CART3, CART33, THE FOURTH TIME 7500-8000, CART4, CART44. WHEN YOU HAVE DONE THIS THAN GO TO THE NEXT STEP.

BREAKING A CARTRIDGE (continued)

(15) TYPE IN THE FOLLOWING PROGRAM IN EDITOR OF E/A.

```
        DEF START
        AORG >A000
START
        COPY 'DSK1.CART11'
        COPY 'DSK1.CART22'
        COPY 'DSK1.CART33'
        COPY 'DSK1.CART44'
        END
```

SAVE THIS AS 'CART55' IN VARIABLE 80 FORMAT. NOW LOAD THE ASSEMBLER (OPTION 2) AND FOR THE SOURCE FILENAME USE 'CART55', OBJECT FILENAME USE 'CART66'. NOW ASSEMBLE UNDER THE 'R' OPTION. WHEN IT IS FINISHED, JUST LOAD AND RUN IT AND FOR THE PROGRAM NAME USE 'START'.

IF IT DOESN'T LOOK RIGHT, USE THE EDITOR AND LOOK AT THE FIRST AND LAST LINES OF THE DISASSEMBLED CODE TO SEE IF THE NEXT FILENAME HAS IDENTICAL ONES OR IF ANY LINES ARE LEFT OUT. WHEN DONE WITH THIS, ASSEMBLE AGAIN, CHECK AGAIN UNTIL IT WORKS.

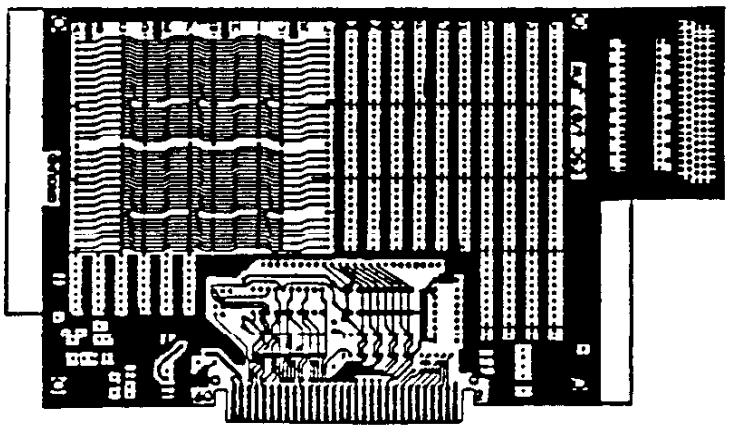
(16) GOOD LUCK, THE END.

CARTRIDGE LIBRARY. We have started a cartridge library. Norm Rokke is the cartridge librarian. These cartridges will be available at each meeting for you to check out and take home for a one month period. This is an excellent oportunity for you to try out one of the cartridges to see if it suits your needs. Norm will be providing a list of the cartridges that are available in the next newsletter. We are also requesting donations to this library, so if you have some old cartridges lying around that you are no longer using, why not donate them to the club so that others might enjoy them?

TI WRITER TRANSLITERATE COMMANDS:

TRANSLITERATION	KEYSTROKE	IN-TEXT SYMBOL	PRINTER COMMAND
.TL 123:27,52	FCTN F	LEFT BRACE	START ITALICS
.TL 125:27,53	FCTN G	RIGHT BRACE	STOP ITALICS
.TL 91:27,83,0	FCTN R	LEFT BRACKET	START SUPERSCRIPT
.TL 93:27,83,1	FCTN T	RIGHT BRACKET	START SUBSCRIPT
.TL 124:27,84	FCTN A	VERTICAL LINE	STOP SUPR/SUBSCPT
.TL 1:27,66,3	CTRL U SHIFT A	.1	START CONDENSED
.TL 17:18	CTRL U SHIFT Q	'1	STOP CONDENSED
.TL 2:27,87,0	CTRL U SHIFT B	.2	START ENLARGED
.TL 18:27,87,0	CTRL U SHIFT R	'2	STOP ENLARGED
.TL 3:27,66,2	CTRL U SHIFT C	.3	START ELITE
.TL 19:27,80	CTRL U SHIFT S	'3	STOP ELITE
.TL 0:27,64	CTRL U SHIFT Z	.0	REINITIALIZE
.TL 16:7	CTRL U SHIFT P	'0	SOUND BELL
.TL 92:8	FCTN Z	\	BACKSPACE/PRINT
.TL 11:27,78	CTRL U SHIFT K	.b	PERFORATION SKIP
.TL 27:27,79	CTRL U FCTN R	'b	STOP PERFORATION SKIP
.TL 4:27,45,1	CTRL U SHIFT D	.4	START SOLID UNDERLINE
.TL 20:27,45,0	CTRL U SHIFT T	'4	STOP SOLID UNDERLINE
.TL 21:27,72	CTRL U SHIFT E	'5	START DOUBLE STRIKE
.TL 5:27,71	CTRL U SHIFT U	.5	STOP DOUBLE STRIKE
.TL 6:27,69	CTRL U SHIFT F	.6	START EMPHASIZED
.TL 22:27,70	CTRL U SHIFT V	'6	STOP EMPHASIZED

WHO NEEDS IT ?!



NEW PROTOTYPING BOARD AVAILABLE

It's finally here! The PEB PROTOTYPING BOARD, which may just "make your day." This board is designed for Peripheral Expansion Box (PEB) use, and will allow for the assembly of a KIT or the design of a NEW IDEA. The design was inspired by the original TI Prototyping Board, plus it has some NEW features, and makes the assembly of TODAYs state-of-the-art components such as high speed static RAMS a snap. The board also supports the 99/8 and 9640 (Geneve) environments. The picture above illustrates the layout of the component side of the board and shows the major areas.

- The standard bus interface is predefined, requiring only the insertion of four IC's to buffer the address lines, data lines, and eight of the control inputs.
- The address and data busses appear in a convenient row above the interface chips, numbered A00-A15 and D00-D07 in order.
- Connections to all control signals are provided, including the three additional address lines and DMA signals for the Geneve.
- Power from a 5 volt regulator is distributed across the back of the board. Space is provided for a second regulator to supply +12, -12, or -5 volts.
- Two RAM busses each have room for four 28-pin chips. Using 62256LP-12 static RAMs in each location would give you 256K bytes before piggybacking.
- The board is wide enough to reach the card guides in the PEB for a secure fit.
- There is room for the I/O connector of your choice to access the outside world.

Extensive documentation is included, covering all signals on the 60-pin PEB bus. A separate copy of the TI hardware specifications (not included) is strongly recommended, however. Two sample project schematics are included. More ideas for projects using this board will be collected and made available in the future.

Boards may be purchased for $35/board + $2.50 S&H (PA res add 6%) from:

The Computer Bug
5075 Clairton Blvd
Pittsburgh, PA 15236
412-882-3374

Technical Questions:
John Willforth
RD 1 Box 73A
Jeannette, PA 15644
412-527-6656

Quantity Orders: (10+,$25)
Scott Coleman
823 North Ave
N. Braddock, PA 15104
412-271-6293

THE HARRISBURG COMPUTER SHOW

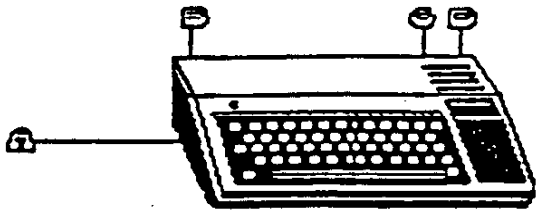
The Central PA TI User's Group sponsored a Computer Exposition on September 12, 1987 in Harrisburg. Norm Rokke and myself jumped into Scott Coleman's car, while Mickey Schmitt and Fred Mackey jr. hopped in with Mike Sealy for the trek to Harrisburg. We arrived without incident around noon and eagerly paid the 3.00 admission to see the latest offering for our orphan. I scouted the area quickly to find the vendor selling T-shirts to make sure he had an ample supply in my size before Scott could scarf up the last one as he did at the Boston show last April. This was not exclusively a TI show even though it was sponsored by the Central PA TI User's group but the majority of the vendors and displays were for the TI and included the Reading-Berks 99'ers, the Boston Computer Society, and of course the Central Pa TI User's group. Hardware was demonstrated by Myarc(the Geneve), Rave 99(the keyboard folks), and DIJIT Systems (RGB monitor interface). Software was being sold by Disk Only Software, Genial Computerware, and Asgard Software. There were other vendors who were selling various cartridges and third party software. There were Seminars scheduled throughout the day in a local meeting room. I was finally to meet Dave Ratcliff who is the sysop of the WIZ/TIB bbs in Harrisburg. He has called our bbs frequently in the past and is known as DAVE83 on our bbs. If you would like to call his bbs the number is 717-657-4997 or 4992. I was able to purchase two new programs for raffle prizes. The first was LEGENDS from Asgard Software. This program was written by the same folks who wrote OLD DARK CAVES and is a great graphic adventure game. The second is ANALOGIES by Program Design Inc. and is a tape that contains 6 lessons plus a final test to prepare one for SAT or PSAT tests which are required for college entry. There were raffles ever hour and Fred Mackey jr. was the lucky winner of a disk cleaning kit. Towards the end of the day Mickey Schmitt's number was called and she won "Introduction to Assembly Language Programming" a book by Molesworth. I was also able to pick up a copy of the public domain FORTRAN COMPILER for the P-CODE card and a couple of programs written in fortran from our friends in the READING-BERKS 99ER CLUB. If any one is interested in getting a copy of these two disks give me a call or see me at the next meeting.

There will be a computer show October 24 & 25 near Washington D.C. which will feature among others, the TI99 and compatibles. For more general information call 703-777-2017 or write Ken Scott, 4914 Wakefield CH RD, Annandale, Va 22003.

The fifth annual TI99/4A Computer Faire in Chicago will take place on November 7 from 9 to 6. Several of us are planning to attend this one and if you are interested let me know.
=gmt=

COMPUTER SHOW. There will be a computer show at Allegheny Center on October 24, and 25. The PUG will have a table with various demonstrations during the day.

PIN ASSIGNMENTS



PIN ASSIGNMENTS APPEAR AS THEY WOULD IF YOU LOOKED DIRECTLY INTO THE PLUGS.

FORT USER GROUP
FEBRUARY, 1987

TI JOYSTICK PINS

1) N.C.
2) STICK B GROUND
3) UP
4) FIRE BUTTON
5) LEFT
6) N.C.
7) STICK A GROUND
8) DOWN
9) RIGHT

use female plug.

ATARI/COMMODORE JOYSTICK

B: 1) UP, 2) DOWN, 3) LEFT, 4) RIGHT, 5) N.C., 6) FIRE BTN, 7) N.C., 8) GROUND, 9) N.C.

A: 1) UP, 2) DOWN, 3) LEFT, 4) RIGHT, 5) N.C., 6) FIRE BTN, 7) N.C., 8) GROUND, 9) N.C.

use male plug.

POWER SUPPLY PLUG

1) NOT USED
2) 8 VOLTS AC
3) 16 VOLTS AC
4) GROUND

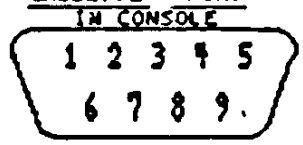
MODULATOR PLUG

1) RED
2) TRANSPARENT
3) WIRE WRAP (not a ground)
4) BLACK (ground)
5) WHITE or YELLOW

VIDEO/SOUND PLUG

1) +12 volt
2) VIDEO OUT
3) SHIELD
4) GROUND
5) SOUND OUT

CASSETTE PORT IN CONSOLE



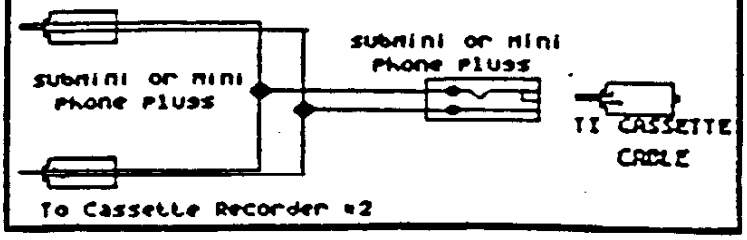
CASSETTE CABLE BELOW

2) NEGATIVE REMOTE CS1 — sleeve
1) POSITIVE REMOTE CS1 — tip
3) NEGATIVE MIC 1 & 2 — sleeve
5) POSITIVE MIC 1 & 2 — tip
7) NEGATIVE REMOTE CS2 — sleeve
6) POSITIVE REMOTE CS2 — tip
9) NEGATIVE SPEAKER CS1 — sleeve
8) POSITIVE SPEAKER CS1 — tip
7) NOT USED

CS1, CS2

% SMALL REMOTE PLUG 3/32"
%% PHONE PLUG 1/8"

Use Y Splitter to record to two tapes



This is an article that was downloaded from the SOURCE some time back.

24K OF DATA STORAGE

If you need to work with quite a bit of data/or would like to change programs, but save the data after you press CALL QUIT then you can set up the 24K of High-Memory in the PEB as a single data file called "EXPMEM2", you open this file just as you would a disk file with one exception - you must PRECEED th OPEN statement with a CALL LOAD to the location -24574 as follows:

For INT/VAR files - 24
For DIS/VAR files - 16
For INIT/FIX files - 8
For DIS/FIX files - 0

Heres and example:
If you want to open up the Expansion Memory for Display,Variable 80 files this is what you'd do:

```
100 CALL INIT
110 CALL LOAD(-24574,16)
120 OPEN #1:"EXPMEM2",RELATIVE,UPDATE,DISPLAY,VARIABLE 80
```

Then continue on as you normally would.

If you want to store both data and assembly language routines at the same time do this:

```
100 CALL INIT
110 CALL LOAD(-24574,-16)
120 OPEN #1:"EXPMEM2"
130 CALL LOAD ("DSK1.ASSM1")
140 CALL LOAD ("DSK2.ASSM2")
150 CALL LINK ("START")
160 REM CONTINUE REST OF PROGRAM
```

In the above example the 24 K of high-memory was saved for use as a DATA file (DIS/VAR 80 format) then the assembly routines were loaded. The computer wll look for the best place to put the routines and will adjust the pointer accordingly. After the routines are loaded, a LINK statement starts the first rutine and off we go.

If that's not enough for you, you can also use the MINI-MEMORY for 4K more of storage of assembly routines! Now that's 16K of program space, 12K of assembly routine space!

Next Meeting

OCT 18

CCAC - South Campus 3:00p