FOR THE RECORD

by Ed Bittner
Recording Secretary

The October meeting of the West Penn 99'ers was opened by the editor in chief of our awsome newsletter, John Willforth. Indeed, President Scott Coleman, in turning over the command to John for the meeting, knew that if anyone could keep it lively and jumping at WARP 9 , John could. Well as it goes (and we all now expectorant it) John opened with several bullets.

Under old business, John introduced himself.. He then announced that we have direct access to the LA TI users group library. John will place in our library (copies available to our members for $1.00), a diskette containing the list of all the programs available from the LA group. Individual orders for programs on these lists should be placed directly with the LA group.

Next up was the clarification of the cartridge library. The mechanism for borrowing a cartridge from the club will be to see the librarian for signing out the cartridge for one month. The club is in need of your seldom or never used cartridges. You may do this in one of two ways. (1) Donate it outright, claim no tax deduction, and never expect to get it back (preferred method) or (2) lend it to the club, the librarian will keep track of your cartridge and return it to you in a reasonable amount of time after your request. The cartridge library can expose our members to many "exciting" programs which are probably "old-hat" to you the donator. Support this effort please!!!

Our newest acqustion, the cabinet was DISPLAYed; after OPENing, INPUTing equipment and newsletters and CLOSEing it, I CALLed for a KEY to PROTECT my ......enough of this.
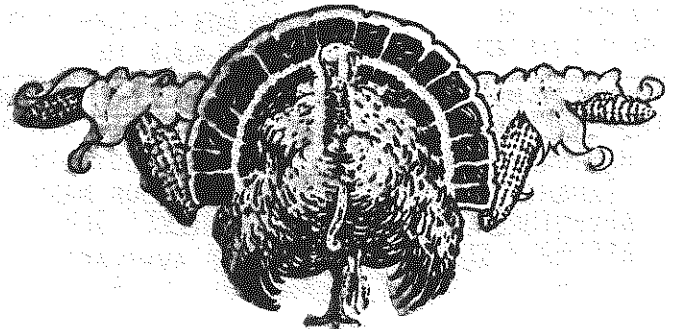
New business unfurled with the announcement of a supplement for "TI SINGS" a popular piece of software from Trio, an update for ($5.00- ?). Ed Bittner (good guy) passed out what he thought was the entire catalog of the recently aquired "FLORIDA LIBRARY", twelve double sided pages of information on just games. Utilities and Misc. listings are still to come. Nominations for officers for next year were accepted from the floor. The slate of candidates (although not carved in stone) looks solid. Nominations will again be accepted from the floor prior to the election at the November meeting.
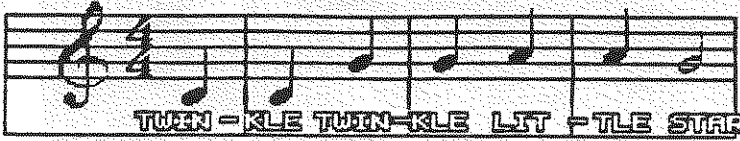
As always, the demonstrations were the highlight of the evening (or lowlight or offlight with the Powerhouse 99 from Eagle, shown by J. Drenon). J Taylor brought along an updated like "SPADE13" flight simulator and Mickey S. showed off her 1st place loader program. John wound up the demos with a neat certificate generating program.

Nominations:
President: Scott Coleman   VP.   : Mickey Schmidt
Rec. Sec.: Ed Bittner   Cores. Sec.: Gene Kelly
Treasurer: Jan Trayers   Librarian : Bob Sadusky
                           : Eric Zeno
                           : Rob Ekl
                           : M Sealy

Late and apologetically,
Scoops Bittner

THIS LITTLE PROGRAM CAN MAKE THE TI-99/4A SING A LITTLE SONG WITH EITHER THE TE-II OR THE "TEXT TO SPEECH" DISK IN EXTENDED BASIC. (ALSO REQUIRES THE SPEECH SYNTHESIZER). THANKS TO RODGER MERRITT OF THE BREA USER GROUP AND TO THE "BUG NEWS" OUT OF WHITTIER, CA FOR BRINGING US THIS PROGRAM.

```
100 REM TI-SINGS BY RODGER M
ERRITT OF THE BREA USERS G
ROUP BREA, CA. THIS IS HOW T
HE TI CAN SING A SONG. B
ETTER IN "TEXT TO SPEECH"
!126
110 CALL CLEAR !209
120 CALL SCREEN(5) !150
130 PRINT "TWINKLE TWINKLE L
ITTLE STAR",,,,,,,,,," 1) TE
-II IN BASIC        (CO
RCOMP PAST COLOR BARS)",,,,!
089
140 PRINT " 2) TEXT TO SPEEC
H IN XB",,,,,,,,,,,,,,,,,,
!099
150 DIM A$(25),B$(25),P(25),
S(25) !137
160 CALL KEY(0,K,ST) !015
170 IF ST<1 THEN 160 !253
180 IF K=49 THEN 200 !005
190 IF K=50 THEN 330 ELSE 16
0 !106
200 OPEN #1:"SPEECH",OUTPUT
!122
210 RESTORE !140
220 X=1 !016
230 READ P$,S$,B$(X) !019
240 IF P$="0" THEN 280 !064
250 A$(X)="//"&P$&" "&S$ !01
0
260 X=X+1 !041
270 GOTO 230 !053
280 FOR Y=1 TO X-1 !098
290 PRINT #1:A$(Y) !115
300 PRINT #1:B$(Y) !116
310 NEXT Y !239
320 GOTO 210 !033
330 PRINT "PUT ""TEXT TO SPE
ECH"" IN DRIVE 1 AND PRESS A
NY KEY",,,,,,,,,,,,,,,,,,,,
,,,,,,,!104
340 CALL KEY(0,K,ST) !015
350 IF ST<1 THEN 340 !178
360 CALL INIT !157
370 CALL LOAD("DSK1.SPEAK","
DSK1.XLAT","DSK1.SETUP") !207
380 CALL LINK("SETUP","DSK1.
DATABASE") !094
390 RESTORE !140
400 FOR X=1 TO 24 !125
410 READ P(X),S(X),A$(1) !246
420 CALL LINK("XLAT",A$(1),B
$(X)) !101
430 NEXT X !230
440 FOR X=1 TO 24 !125
450 CALL LINK("SPEAK",B$(X),
P(X),S(X)) !101
460 NEXT X !230
470 GOTO 390 !214
480 DATA 43,128,TWEENKL,33,1
00,TWEENKL,30,99,LITL,33,100
,STAR ER,36,110,HOW I !188
490 DATA 38,114,WUN DER,41,1
22,WHAT U,43,128,R ER,33,9
9,UP UH,36,100,BUV THE !090
500 DATA 38,114,WORLD SO,41,
122,HI,33,99,LIKE UH,36,100,
DIE MUND,38,114,IN THE,41,12
2,SKY !007
510 DATA 43,128,TWEENKL,33,9
9,TWEENKL,30,99,LITL,33,99,S
TAR ER,36,110,HOW I,38,114,W
UN DER !239
520 DATA 41,122,WHAT U,43,12
8,R ER,0,0,0 !136
```

THE NEXT MEETING OF THE WEST PENN 99'ERS WILL BE HELD AT THE UNITED PRESBYTERIAN CHURCH OF THE COVENANT IN DOWNTOWN IRWIN, PA (4TH AND OAK STREETS) AT 7:00 PM.
  BEGINNERS BASIC (YES THE VERY BEGINNING STUFF) WILL BEGIN AT ABOUT 8:30 (APPX. 1 HOUR) TAUGHT BY ERIC KEPPS, BRING YOUR MANUALS THAT CAME WITH THE CONSOLE AND WRITING PAPER.
  ADVENTURE CLASS TAUGHT BY MICKEY SCHMITT WILL START AT 8:30 (APPX. 1 HOUR)
  ASSEMBLY CLASS (SUBJECT TO AVAILABILITY OF INSTRUCTOR) DON'T STAY AWAY, THERE ARE OTHER THINGS GOING ON. REPORT OF CHICAGO FAIR FOR ONE THING!

PASCAL/p-CODE PART 1
Stan Katzman

A while back John Willforth asked me if I would write a column on the Pascal/p-Code system. I was hesitant because I don't know too many people that have p-Code or people that want (or can get p-Code), so I don't know how much of a demand there is for knowledge of this system. I decided to do it anyway because this is the least covered system in the T. I. family.

Let us first discuss the hardware and software needed. In order to run Pascal on the T. I. one needs 1) the p-Code card, 2) at least two disk drives (I am running two DS/SD drives.) 3) RS232 card and a printer (this is necessary because the programs can get to be very large and debugging without a printout would be very difficult.), 4) 32K memory, 5) p-Code Editor, 6) Pascal compiler, 7) Filer, 8) Utilities, and 9) Assembler and Linker. I do not use the Assembler and Linker but if you can obtain these pieces of software do so and you can grow into them. You will also need the documentation (which is very extensive).

There are some books that I would also recommend 1)any Pascal text that covers Standard Pascal and/or U.C.S.D. Pascal (not Turbo Pascal), 2) "Introduction to the U.C.S.D. p-System", by Charles W. Grant and Jon Butah, Sybex, 1982, 3) "Advanced U.C.S.D. Pascal Programming Techniques", by Eliakim Willner and Barry Demchak, Prentice-Hall, 1985 and 4) "The U.C.S.D. Handbook", by Randy Clark and Stephen Koehler, Prentice-Hall, 1982.

After getting the hardware and software together the first thing that has to be done is to back up the software, this is very important, please do nothing else until this is done.

We have to format disks in order to back up the software so let us discuss how to do this in the p-Code system. If you only have SS/SD drives you can use the DFORMAT program on the Utilities disk. This software does NOT work for DS or DD disks, the disk will come out SS/SD in spite of what the menue prompts say in DFORMAT. To format a disk other than SS/SD go into X-Basic and using DM-1000 format a series of disks. Now shut off the console and turn on the p-Code card using the switch on the back and put the Filer disk in the #1 drive and a disk formatted from X-Basic in the #2 drive. (In p-Code the #1 drive is called #4, the #2 drive is called #5 and the #3 drive is called #9; we will use these numbers from here on.) Now turn on the console and the drives will turn on and after about a minute you will see across the top a series of prompts and in the middle of the screen a greeting message. The cursor will be at the top of the screen and at this point press "F" (for Filer) and then press "Z" (Zero). You will now see "Zero dir of ?" now enter #5:", now it will say "Duplicate dir?", press "Y", next it says "Are there 180 blks on the disk? (Y/N)" (if the disk is DS/SD or DS/DD enter"N", if SS/SD enter "Y"), then the screen reads "# of blocks on the disk" (if DS/SD enter 360, if DS/DD enter 720), next the screen reads "New volume name?", at this point enter a disk name (the one from Basic will not count) with a max of 8 characters starting with a letter, next the screen reads "(new volume name) correct?" at this point enter "Y" or "N" ("N" lets you re-enter the volume name). When the Filer has finished initilizing the disk it displays "(new volume name) zeroed". Do this until all of your disks are initilized. These are formatted disks. The zeroing process is found on page 52 of the Filer.

If you only have SS drives, put the Utilities disk in #4 and the blank disk in #5. Follow the direction on page 15 of the Utilities documentation. Then take out the Utilities disk and put the Filer disk in #4 and go through the "Zero" process described above.

To back up an entire disk put the Filer in #4 and empty formatted disk in #5. Call the Filer by entering "F" and then enter "T" (Transfer). You will then see "Transfer?", at this point take the Filer out of #4 and put the disk you want to be backed up in #4 then enter "#4:, #5:". You will now see "Destroy (diskname)" (diskname" is the name of the disk in #5) at this point press "Y" and the copying will be automatic. Do this for all of the disks that came with system.

This article has been a bit long so we will quit here. More next time.

TRANSFERRING PRBASE FILES
(By Doug Gootee - CIN-DAY User Group)

Not too long ago, I wrote an article about transferring data from Futura Mail List to PRBASE. Since then, I have found the need to move that data to another program. This time, though, the program was on a different machine! The problem boiled down to this: I had an ASCII file in the TI program that I wanted to transfer to an IBM clone. Gaining access to the data by FAST TERM was not possible because of the special disk formatting used in the PRBASE data disk. The answer to the dilemma was simply to "fool" the TI computer and created a data disk that is accessible from FAST TERM.

I used the PRBASE utility programs in reverse to obtain this clone. One of the routines in the utility program is to copy records from one data base to another. All I had to do was to create an environment for the new data that had a "normal" directory entry.

The procedure was quite straightforward. I used a short program to create a D/F 128 file that had twice as many records as the PRBASE file had. Here is the listing of that program:

```
100 OPEN #1:"DSK2.USERS",DIS      130 NEXT X
PLAY,FIXED 128                    140 CLOSE #1
110 FOR X=1 TO 100
120 PRINT #1:"X"
```

This short program created a "shell" file for 50 PRBASE records. The key here was to use a freshly initialized diskette for this new file. With a fresh diskette, the first file is positioned so that the record #1 is equivalent to record #25 in PRBASE. All that was left was to actually use the copy utility to copy my file from PRBASE to the new diskette. As a bonus, the D/V 128 format allowed XMODEM transfer without the file header information from the TI system.

This technique of "cloning" might also be useful for accessing your PRBASE file from other programs. For instance, you might want a special report format that is not compatible with the report generator that is part of PRBASE. This routine may be the answer.

After working out all of the details mentioned above, I read in one of the newsletters we receive each month that Ron Baker of the Penn/Ohio Users Group has written a routine that does this in one step. Ron's program is called PRB/MODEM, and it shares the following limitation with the procedure I have described here. The largest file that can be accomodated is 325 records for single-sided, and 685 for double-sided. The PRB/MODEM program does one other nice thing that my technique does not do: it will also transfer the record and report definitions at the same time. This added feature costs an additional ten records.

For those of you who have thought about getting an IBM compatible and are concerned about the usefulness of your TI software, this should help.

ONCE THE FILE WAS SET UP FOR ACCESS BY FAST TERM, I TRANSFERRED THE FILE TO MY PC, BUT WHILE THE FILE WAS INTACT, THE DATA WAS IN ONE LONG STRING, WITH NO CARRIAGE RETURNS OR ANY OTHER WAY TO BREAK THE FILE DOWN. ENTER A SECOND BASIC PROGRAM, THIS ONE FOR THE PC WRITTEN IN GWBASIC. FOR THOSE WHO MIGHT HAVE A USE FOR THIS, I'LL INCLUDE THE PROGRAM HERE. IF NOT, I HOPE THAT THIS ARTICLE DID STIMULATE YOUR THOUGHTS ON WAYS TO BETTER USE THE TOOLS WE HAVE FOR THE TI.

```
100 CLS
110 PRINT "RESTRUCTURING A
PRBASE FILE"
120 OPEN "C:JC99ER.DAT" AS
#1 LEN 256
130 OPEN "CJC99.DAT" FOR
OUTPUT AS #2
140 FIELD #!,29 AS LN$,15
AS FIN$ 30 AS AD1$,16 AS AD2$,
15 AS CTY$, 2 AS ST$,10 AS ZIP$,
12 AS PHONE$, 4 AS STAT$,122
AS JUNK$
150 GET #1
160 IF EOF (1) THEN 1000
170 WRITE #2, LN$, FIN$,AD1$,
AD2$, CTY$,ST$, ZIP$, PHONE$,
STAT$
180 GOTO 150
1000 CLOSE #1
1010 CLOSE $2
1020 END
```

USING THE "IMAGEWISE" VIDEO DIGITIZER WITH THE TI 99/4A
BY STEVE LANGGUTH

FOR THE PAST YEAR OR SO, THANKS TO THE AUTHORS OF A COUPLE OF "RLE" PROGRAMS, USERS OF THE TI 99/4A HAVE BEEN ABLE TO VIEW AND USE HIGH RESOLUTION PICTURES CREATED BY THE USERS OF OTHER BRANDS OF COMPUTERS. IT WAS GREAT BEING ABLE TO TAKE ADVANTAGE OF ALL OF THE PICTURE FILES THAT COULD BE FOUND ON THE VARIOUS ONLINE DATABASES AND BBS'S. BUT IT ALSO MADE ME REALIZE THAT SOMETHING WAS MISSING IN THE WORLD OF THE 99/4A. USERS OF OTHER BRANDS OF COMPUTERS (EVEN THE 8 BIT ANTIQUES LIKE THE COMMODORE 64 AND ATARI 800) HAD ACCESS TO VIDEO DIGITIZERS, AND TI USERS DID NOT. NOW, THIS MIGHT NOT SEEM LIKE A VERY BIG PROBLEM TO SOME USERS, BUT TO THOSE OF US WHO ENJOY WORKING WITH COMPUTER GRAPHICS IT WAS. NOTICE THAT I SAID "WAS". FINALLY, USERS OF THE TI 99/4A CAN DIGITIZE IMAGES FROM VIDEO CAMERAS AND VCR'S AND PUT THOSE IMAGES INTO A FORMAT THAT CAN BE USED BY THE VARIOUS BITMAP MODE DRAWING PROGRAMS AVAILABLE FOR OUR COMPUTER. THIS ARTICLE DESCRIBES HOW IT CAN BE DONE.

THE HARDWARE IN THE MAY AND JUNE 1987 ISSUES OF BYTE MAGAZINE, STEVE CIARCIA (BYTE'S RESIDENT HARDWARE GENIUS) DESCRIBED A VIDEO DIGITIZING SYSTEM THAT HE HAD DEVELOPED CALLED THE "IMAGEWISE" SYSTEM. THIS SYSTEM IS COMPOSED OF TWO PARTS, A "DIGITIZER/TRANSMITTER" AND A "RECEIVER/DISPLAY". EACH OF THESE PARTS IS CONTAINED ON A SEPARATE PRINTED CIRCUIT BOARD. YOU CAN BUY EACH BOARD ALREADY ASSEMBLED OR IN A KIT WITH ALL THE NEEDED COMPONENTS. OR, YOU CAN JUST BUY THE PRINTED CIRCUIT BOARDS (WITH AN EPROM CONTAINING THE CONTROL SOFTWARE) AND THEN BUY ALL THE OTHER NECESSARY COMPONENTS YOURSELF. I CHOSE TO BUY THE COMPONENTS MYSELF, AND THE TWO PARTS OF THE SYSTEM WOUND UP COSTING ME A TOTAL OF ABOUT $150 EACH.

WHEN THE BOARDS ARRIVED IN THE MAIL, THEY CAME WITH DETAILED INSTRUCTION MANUALS AND PARTS LISTS, INCLUDING THE VARIOUS PART NUMBERS FOR SEVERAL OF THE LARGER ELECTRONICS SUPPLY COMPANIES. EVEN THOUGH I HAD NEVER ATTEMPTED A HARD-WARE PROJECT BEFORE, I HAD LITTLE TROUBLE GETTING EVERYTHING PUT TOGETHER. (I DO HAVE A FRIEND NEXT DOOR, WHO IS A 99/4A HARDWARE "GENIUS", SO I COULD AFFORD TO BE A LITTLE "BRAVER" THAN I WOULD HAVE BEEN IF I HAD TO ATTEMPT A PROJECT LIKE THIS TOTALLY BY MYSELF!) AND ONCE I FINALLY GOT ALL THE COMPONENTS SOLDERED INTO THE CORRECT HOLES (DON'T ASK!!), BOTH BOARDS WORKED GREAT.

THE DIGITIZER/TRANSMITTER (D/T) BOARD IS, AS THE NAME IMPLIES, THE PART OF THE "IMAGEWISE" SYSTEM THAT DOES THE DIGITIZING. UNLIKE SOME DIGITIZERS MADE SPECIFICALLY FOR OTHER COMPUTER SYSTEMS THAT TAKE SEVERAL SECONDS TO DIGITIZE A COMPLETE IMAGE (AND THEREFORE REQUIRE YOUR "SUBJECT" TO NOT MOVE OR YOUR VCR TO BE SET TO "FREEZE FRAME"), THE IMAGEWISE D/T BOARD CAPTURES A COMPLETE IMAGE IN 1/60TH OF A SECOND. IT ACCEPTS VIDEO SIGNALS FROM A STANDARD TV CAMERA (EITHER B&W OR COLOR), VCR, LASERDISC PLAYER, OR CAMCORDER, AND STORES THE PICTURE AS 244 LINES OF 256 PIXELS WITH 64 LEVELS OF GREY SCALE FOR EACH PIXEL. THE D/T BOARD THEN CONVERTS THE STORED VIDEO IMAGE TO RS-232 SERIAL DATA WHICH CAN BE TRANSMITTED TO ANY COMPUTER WITH A RS-232 PORT OR TO THE IMAGEWISE RECEIVER/DISPLAY BOARD. THE RECEIVER/DISPLAY BOARD (R/D) ACCEPTS SERIAL DATA FROM THE D/T BOARD OR FILES DOWNLOADED FROM A COMPUTER. IT CONVERTS THIS DATA BACK INTO A PICTURE SUITABLE FOR DISPLAY ON A COMPOSITE VIDEO INPUT MONITOR.

TOGETHER THE TWO BOARDS ALLOW THE USER TO CREATE A FILE OF DIGITAL DATA THAT REPRESENT AN ANALOG VIDEO IMAGE, USE A COMPUTER TO MANIPULATE THIS FILE, AND THEN DISPLAY THE NEWLY "MANIPULATED" IMAGE. THE JULY AND AUGUST 1987 ISSUES OF BYTE MAGAZINE BOTH CONTAIN ARTICLES DESCRIBING INTERESTING IMAGE PROCESSING TECHNIQUES THAT CAN BE PERFORMED ON FILES CREATED THIS WAY.

THE SOFTWARE AS I STATED EARLIER, EACH BOARD COMES WITH AN EPROM THAT CONTROLS WHAT THAT BOARD IS DOING. BUT YOU STILL NEED PROGRAMS FOR YOUR COMPUTER THAT ALLOW YOU TO ACCEPT THE DATA BEING SENT FROM THE D/T BOARD TO THE RS-232 AND TO SEND A DATA FILE FROM YOUR COMPUTER TO THE R/D BOARD. ALSO, IF YOU WANT TO DISPLAY THE DIGITIZED IMAGES ON YOUR COMPUTER MONITOR, YOU NEED A PROGRAM THAT CONVERTS THE DATA FILE INTO A FORM THAT YOUR COMPUTER CAN USE. IF I WAS AN IBM PC USER, THIS WOULD HAVE BEEN NO PROBLEM, BECAUSE THE BOARDS COME WITH A DISK CONTAINING PROGRAMS FOR THE PC THAT BOTH "GRAB" AND "SHOW" IMAGES. BUT BECAUSE MY LITTLE 99/4A IS AN "ORPHAN", I HAD TO WRITE THESE PROGRAMS MYSELF. TO "GRAB" A DIGITIZED IMAGE FROM THE D/T BOARD, YOU SIMPLY CONNECT THE D8-25 CONNECTOR ON THE BOARD TO THE RS-232 OR THE COMPUTER. THE PROGRAM NEEDS TO SEND A ONE BYTE CODE TO THE BOARD TO TELL IT WHAT RE-SOLUTION TO USE (THE CHOICES ARE 256x244, 128x122, AND64x61), THEN WHEN THE PROGRAM SENDS TO THE BOARD A CHARACTER >11 (XON), THE BOARD "INSTANTLY" DIGITIZES THE PICTURE AND BEGINS SENDING IT TO THE COMPUTER. (THE BAUD RATE BEING USED IS SELECTED BY A DIP SWITCH ON THE BOARD ITSELF.) IF THE COMPUTER MUST TAKE A "TIME OUT" TO WRITE TO DISK, THE PROGRAM SIMPLY SENDS A CHARACTER >13 (XOFF) AND THE BOARD STOPS SENDING UNTIL IT RECEIVES ANOTHER "XON". THE FILE CREATED BY THIS PROGRAM IS LARGE. THE BOARD SENDS ONE BYTE FOR EACH SCREEN PIXEL. THE VALUES OF THESE BYTES RANGE FROM >00 FOR BLACK TO >3F FOR A PIXEL THAT IS WHITE. THIS ADDS UP TO A FILE OF 246 SECTORS FOR EACH PICTURE DIGITIZED. OF COURSE, THE FILE CONTAINS A LOT MORE "DATA" THAN 99/4A USERS CAN USE, BECAUSE EVEN THOUGH OUR HIGH RESOLUTION SCREEN IS 256x192, WE ONLY HAVE 15 COLORS TO WORK WITH AND EACH PIXEL CANNOT BE COLORED "INDEPENDENTLY". PERHAPS MORE OF THIS DATA WILL BE PUT TO USE ON THE MYARC 9640.

TO "SHOW" A DIGITIZED IMAGE ON THE R/D BOARD, THE PROCESS IS JUST REVERSED. A FILE IS SIMPLY READ ONE RECORD AT A TIME AND THEN SENT TO THE R/D BOARD VIA THE RS-232. I FOUND THAT I HAD TO USE ASSEMBLY LANGUAGE TO WRITE THE "GRAB" PROGRAM, BUT A VERY SIMPLE EXTENDED BASIC PROGRAM WORKED FINE FOR THE "SHOW" PROGRAM. FINALLY, BECAUSE I WANTED TO USE MY DIGITIZED IMAGES ON MY 99/4A, I WROTE A PROGRAM THAT WILL "CONVERT" THE INFORMATION IN THE FILES CREATED BY THE D/T BOARD INTO A PICTURE THAT CAN BE SAVED IN TI-ARTIST FORMAT. AT FIRST I DECIDED TO SIMPLY "TURN ON" A PIXEL IF IT WAS ABOVE A CERTAIN VALUE AND LEAVE IT "TURNED OFF" IF THE VALUE WAS BELOW THE "DIVIDING LINE". UNFORTUNATELY, THIS SIMPLE METHOD REALLY DIDN'T GIVE AS MUCH DETAIL TO THE PICTURES AS I KNEW WAS POSSIBLE.

Last month I asked for items for this section because we were not receiving much activity here. Well, as you can see below the response was very good!

FOR SALE:
  EXPANDED CASSETTE SYSTEM with the following:
  * 32K expansion memory in console * Extended Basic cartridge (w/manual)
  * Axiom printer interface   * Seikosha GP-250X printer (Graphics)
  * Terminal Emulator II Cartridge   * Speech Synthesizer
  * 39 XBasic programs on tape   * Cassette WORD PROCESSOR
  * CLYDE's H.S. cass. loader + 13 game cartridges on tape (call for info.)
  * Parsec and Tombstone City Cart.s * Cassette cable
  * Manuals: Programs for the TI Home Computer, Not Just for Kids, The Last
    Word on th TI-99/4A, Guide to the TI-99/4A (Programmers Reference)
  Call Nancy Cox at (412) 694-8819, asking $250.(negotiable)

  EXPANDED DISK SYSTEM
    Treat yourself or your child to a really nice Christmas. Order your T.I.
  Disk Drive System - NOW. Call (412) 751-6065 for details.

  PARTIAL EXPANSION SYSTEM
  * Console (silver and black)   * COMREX CR 5500 12" Monitor
  * Peripheral Expansion Box   * RS232/PIO Card
  * T.I. Acoustic Modem   * TE-II Cartridge
  * Parallel printer cable(Centronix)* Cassette cable
  * Manuals
  Contact Bob Sterner at (412) 741-4641 Make an offer!

  PARTIAL EXPANSION SYSTEM
  * Console (silver and black)   * Peripheral Expansion Box
  * 32K Expansion Memory Card (TI)   * Logo II Cartridge
  * Speech Synthesizer   * Some commercial cassette programs
  * Leather covers for console,PEB,and speech synthesizer
  Contact John Willforth (intermediary) (412) 527-6656 Asking $250.

FOR SALE:

Micromint BCC52 Basic Control Computer. Single-board computer with Basic for process control; EPROM program storage; includes power supply, 10 EPROMs, 32K RAM, all documentation. $175. negot. Call Neil (412) 373-9085 after 6 EST.

FOR SALE OR TRADE:
  STANDALONE 32K and P.E.B. Make offer for cash or trade.
  Contact Eric Zeno (412) 371-4779

HARDWARE WANTED:
  Disk drives and controllers any size or kind for TI or compatible.
  Contact Eric Zeno (412) 371-4779

(CONTINUED FROM PAGE 6 VIDEO DIGITIZER)

AFTER A LOT OF EXPERIMENTATION I WAS ABLE TO CREATE AN "ALGORITHM" THAT TURNS ON MORE PIXELS IN THE AREAS THAT ARE SUPPOSED TO BE DARKER, AND LESS IN THE LIGHTER AREAS. THE CONVERTED PICTURE HAS MUCH LESS RESOLUTION THAN THE ORIGINAL, BUT IT CAN BE SAVED AS A TI-ARTIST PICTURE FILE (25 SECTORS), WHICH CAN THEN BE MODIFIED OR PRINTED OUT. IF YOU WOULD BE INTERESTED IN BUYING THE PROGRAMS I WROTE TO USE WITH THE IMAGEWISE SYSTEM AND THE 99/4A, I WILL GLADLY SELL THEM TO YOU FOR $10--$11, IF I HAVE TO SUPPLY THE DISK (HEY, I'VE GOT TO PAY FOR THIS BABY SOMEHOW!!!).

STEVE LANGGUTH
2956 SOUTH BARNES
SPRINGFIELD, MO 65804

THIS MONTH I AM CONTINUING WITH THE TOPIC OF UNDERSTANDING - CREATING - AND USING - CASSETTE FILES. MORE SPECIFICALLY, I WILL BE CONTINUING WITH THE TOPIC OF... "HOW TO "OPEN" UP A CASSETTE FILE"... WHICH I FIRST BEGAN DISCUSSING THREE MONTHS AGO... IN PART II OF THIS PARTICULAR SERIES.

THE "FILE-TYPE" ENTRY SPECIFICATION DESIGNATES THE FORMAT OF HOW THE DATA IS GOING TO BE STORED ON THE FILE. THIS WILL BE EITHER A "DISPLAY" FORMAT OR AN "INTERNAL" FORMAT. THE "DISPLAY" FORMAT REFERS TO PRINTABLE ASCII CHARACTERS AND IS USUALLY USED WHEN THE OUTPUT WILL BE READ BY PEOPLE, RATHER THAN BY THE COMPUTER. THE "INTERNAL" FORMAT REFERS TO DATA WHICH IS RECORDED INTERNALLY IN MACHINE LANGUAGE. YOU WILL FIND THAT DATA IN THIS FORMAT IS FAR MORE EFFICIENT FOR RECORDING DATA ON A CASSETTE RECORDER AS IT REQUIRES LESS SPACE... THUS A PROGRAM WILL RUN MUCH FASTER THAN WHEN YOUR FILES ARE RECORDED IN THE "DISPLAY" FORMAT.

AS A WORD OF WARNING: IF THE "FILE-TYPE" SPECIFICATION IS OMITTED THE T.I. COMPUTER WILL ASSUME A "DISPLAY" FORMAT... WHICH IS NOT AS EFFICIENT AS THE "INTERNAL" FORMAT.

THE "RECORD-TYPE" ENTRY SPECIFIES THAT THE RECORDS ON THE FILE ARE ALL THE SAME FIXED LENGTH. THE KEYWORD "FIXED" MAY BE FOLLOWED BY A NUMERIC EXPRESSION SPECIFYING THE MAXIMUM LENGTH OF A RECORD. FOR CASSETTE TAPE RECORDS, YOU MAY SPECIFY ANY LENGTH UP TO 192 POSITIONS. HOWEVER, THE CASSETTE TAPE DEVICE USES RECORDS WITH LENGTHS OF 64, 128, OR 192 POSITIONS AND WILL PAD THE RECORD THAT YOU SPECIFY TO THE APPROPRIATE LENGTH.

AS A WORD OF WARNING: IF THE "RECORD LENGTH" IS NOT SPECIFIED... THE T.I. COMPUTER WILL ASSUME THE STANDARD DEFAULT OF 64 RECORD POSITIONS FOR A CASSETTE RECORDER.

THE "FILE-LIFE" ENTRY INFORMS THE COMPUTER THAT THE FILES THAT YOU ARE ABOUT OMIT THIS ENTRY ENTIRELY SINCE THE T.I. COMPUTER ALREADY ASSUMES ALL FILES TO HAVE A "PERMANENT" "FILE-LIFE".

IF ALL OF THIS SOUNDS WAY TOO CONFUSING FOR YOU... FEAR NOT... I FELT THE SAME WAY MYSELF! WITH THAT PARTICULAR THOUGHT IN MIND... I HAVE DECIDED TO CREATE A "REFERENCE CHART"... IN ORDER TO GET A BETTER UNDERSTANDING OF ALL THE "NEW MATERIAL" THAT I HAVE EXAMINED SO FAR. (PLEASE KEEP IN MIND... THAT THIS PARTICULAR "REFERENCE CHART" IS A CONTINUATION OF THE "REFERENCE CHART" WHICH FIRST APPEARED TWO MONTHS AGO... IN PART III OF THIS PARTICULAR SERIES.

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*                                                                          *
*          TO "OPEN" UP A CASSETTE FILE... FOLLOW THESE STEPS...            *
*                                                                          *
******************************************************************************
*                            *     *                 *     *               *
*           1 5              * 1 6 *       1 7        * 1 8 *      1 9       *
*                            *     *                 *     *               *
******************************************************************************
*                            * N   *                 * N   *               *
*     FILE TYPE FORMATS      * E   *   RECORD TYPE    * E   *  FILE LIFE    *
* ========================== * E   * =============== * E   * ============= *
* DISPLAY......PRINTABLE ASCII* D   *  FIXED  LENGTH  * D   *  PERMANENT    *
* INTERNAL.....MACHINE LANGUAGE*    *  1-192 POSITIONS*     *               *
*                            * C   *                 * C   *               *
****************************** O   ********************* O   ***************
*                            * M   *                 * M   *               *
* INTERNAL ( PREFERRED OPTION )* M  *      FIXED      * M   *  PERMANENT    *
*                            * A   *                 * A   *               *
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NEXT MONTH I WILL CONTINUE WITH THE TOPIC OF UNDERSTANDING - CREATING - AND USING - CASSETTE FILES. MORE SPECIFICALLY, I WILL BE COMBINING ALL THREE OF MY "CASSETTE FILE REFERENCE CHARTS" THAT I HAVE CREATED OVER THE LAST THREE MONTHS INTO ONE COMPLETE CHART - SO THAT YOU MAY HAVE ALL OF THE NECESSARY INFORMATION AVAILABLE AT YOUR FINGERTIPS FOR FASTER REFERENCE.

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.

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*                      HIGH-SCORING GAMES                           *
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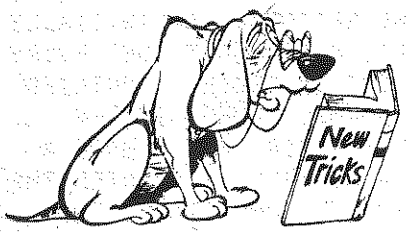
GAME	SCORE	COMMENTS	DATE	NAME
ARCTURUS	15970		9-09-87	JACK SCHMITT
ARCTURUS	14040		5-28-87	TONY MAWHINNEY III
BURGERTIME	82600	PATTERN 21	9-04-85	MICKEY SCHMITT
BURGER BUILDER	1000000	PATTERN 99 NEVER RUNS OUT OF PEPPER		ELEANOR ZIC
CENTIPEDE	301930		1-08-87	MICKEY SCHMITT
COMPUTER WAR	2800		9-10-87	FRED MACKEY JR
COMPUTER WAR	2500		9-19-87	JACK SCHMITT
DIG DUG	262460			FRANK ZIC
DIG DUG	216740			ELEANOR ZIC
HUSTLE	WON 52	LOST 27 TIED ONCE		ELEANOR ZIC
JUMPY	131900	PATTERN 21		ELEANOR ZIC
JUNGLE JIM	10730		5-28-87	TONY MAWHINNEY III
MICRO PINBALL	1776500		5-18-87	NORM ROKKE
MICRO PINBALL	969500		6-27-87	MIKE SEALY
MIDNITE MASON	24720		6-16-87	FRANK ZIC
MIDNITE MASON	19340		6-28-87	ELEANOR ZIC
MOON PATROL	73150	LEVEL K CHAMPIONSHIP		MIKE SEALY
MUNCHMAN	202170	LEVEL 37	9-11-87	PAUL BROCK SR
MUNCHMAN	34660	LEVEL 11	9-13-87	MICKEY SCHMITT
PACMAN	153000	LEVEL 17	9-10-87	GARY TAYLOR
PARSEC	47300	LEVEL 3	9-13-87	MICKEY SCHMITT
POLE POSITION	105200			DAVID RENNER
SEWERMANIA	2600		9-09-87	JACK SCHMITT
TI INVADERS	15930		9-11-87	PAUL BROCK SR
TI INVADERS	9863	MERELY AGGRESSIVE	8-28-87	MICKEY SCHMITT
TOMBSTONE CITY	23560	LEVEL 21 MASTER	9-11-87	PAUL BROCK SR

RECENTLY, I BROKE MY PREVIOUS "HIGH-SCORE" IN MY ALL-TIME FAVORITE ARCADE GAME, WHICH MANY OF YOU KNOW IS "CENTIPEDE". HOWEVER, I FOUND OUT THAT I AM NOT THE ONLY ONE OUT THERE WHO HAS A "FAVORITE" GAME OR A "HIGH-SCORE" TO BOAST ABOUT! WITH THIS THOUGHT IN MIND, I HAVE DECIDED TO START A NEW COLUMN, IN OUR WEST PENN NEWSLETTER. IF YOU CAN "BEAT" ANY OF THE SCORES THAT ARE LISTED IN THIS COLUMN - JUST LET ME KNOW AT ANY OF THE WEST PENN MEETINGS AND I'LL PUBLISH IT IN THE NEXT NEWSLETTER. ANY ARCADE GAME FOR THE TI IS ACCEPTABLE FOR THIS COLUMN, AND YOU MAY SUBMIT YOUR HIGH-SCORES AS OFTEN AS YOU WISH. LET'S GET AS MANY PEOPLE INVOLVED IN THIS ENDEAVOR AS POSSIBLE. REMEMBER, A LITTLE "FRIENDLY" COMPETITION, MAY JUST "SPARK" SOME UNDERLYING INTEREST AND ENTHUSIASM!

RAM DISKS.........

BY JOHN WILLFORTH

SEVERAL MONTHS AGO, I ASKED IF ANY ONE IN THE HARDWARE GROUP WANTED TO BUILD A RAM DISK, HORIZON TYPE, MORE PRECISELY. WELL THE RESPONSE WAS INITIALLY VERY GOOD. SO TO GET EVERY THING IN ORDER, I PRINTED A FORMAL "FORM" IN THE NEWSLETTER. BUT I MADE A BIG MISTAKE, I PRINTED THE NEWS OF SOME OTHER VERY PROMISING NEW RAM DISKS. AS A RESULT, THE RESPONSE TO MY REQUEST WAS ALMOST NILL! THE COMBINATION OF ALL THE INFORMATION, ONLY CAUSED CONFUSION.

IN AN EFFORT TO CLEAR UP THE CONFUSION, I'M GATHERING INFORMATION ON ALL THE CURRENTLY PRODUCED, OR TO BE PRODUCED SHORTLY. WHEN I GET ALL THIS TOGETHER, I PLAN TO PRINT AN REPORT OF THESE RAM DISKS IN THIS NEWSLETTER.

I'M SOLICITING INFORMATION FROM USERS OF EACH SO THAT THE EVALUATION WILL BE AS FAIR AS POSSIBLE. IF YOU USE ONE, AND WOULD BE WILLING TO CONTRIBUTE SO THAT OTHERS WOULD HAVE THE BENIFIT OF YOUR EXPERIENCE PLEASE FEEL FREE TO SEND THE INFO. TO ME. ADDRESS BELOW.

I WOULD LIKE TO BE READY BY THE DECEMBER ISSUE, SO PLEASE ACT NOW. REMEMBER, I CAN'T INCLUDE THOSE THAT ARE NO LONGER AVAILABLE, SINCE IN MOST CASES THERE WERE FEW PRODUCED, AND NO MORE WILL BE. SEND TO:

JOHN F. WILLFORTH
R.D. # 1 BOX 73A
JEANNETTE, PA 15644
(412) 527-6656

ADVENTURE CATALOG.........

MICKEY SCHMITT HAS PUT TOGETHER A RATHER IMPRESSIVE CATALOG OF ADVENTURE GAMES FOR THE T.I. 99/4A. THESE WILL BE AVAILABLE AT THE MEETING. ANOTHER GOOD REASON TO COME!

NEW PRODUCT NEWS

COMMAND LINE DOS - A DISK OPERATING SYSTEM THAT LOADS INTO YOUR T.I. IN THE CARTRIDGE RAM AREA. THUS, YOU WILL NEED SUPER-CART, GRAM KRACKER, GRAM-KARTE, OR SOME OTHER PRODUCT WITH RAM FROM 6000 TO 7FFF. THIS WILL GIVE YOUR T.I. MANY COMMANDS AVAILABLE IN MS-DOS, SUCH AS BEEP, CLS, COPY, INIT, LINK, LOAD, FORMAT, AND MANY MORE. FOR MORE INFORMATION, CONTACT RYTE DATA, 210 MOUNTAIN ST., HALIBURTON, ONTARIO, CANADA KOM 1SO (705) 457-2774. RYTE DATA HAS INDICATED THAT IF THERE IS ENOUGH INTEREST, THEY MAY RELEASE THIS PROGRAM AS A STAND ALONE CARTRIDGE, FOR PEOPLE WITHOUT A SUPER-CART OR THE LIKE.

OMEGA - A NEW TERMINAL EMULATOR PROGRAM SOON TO BE RELEASED AS PUBLIC DOMAIN. WRITTEN BY TRAVIS WATFORD, IT HAS MANY OF THE NEW FEATURES, INCLUDING DISPLAYING RLE PICTURES AS YOU DOWNLOAD THEM, AND A NEW CONFERENCE MODE TO MAKE CONFERENCING EASIER ON THE NETWORKS.

SORT/EXP - A VERY FLEXABLE, VERY FAST SORTING PROGRAM WRITTEN BY J. PETER HODDIE. IT WILL SORT ANY FILE (I.E. DV80, IF20, ETC.) ON UP TO EIGHT DIFFERENT FIELDS. IT CAN HANDLE EITHER 1000 RECORDS OR 24K OF DATA, WHICHEVER COMES FIRST. IT CAN BE DOWNLOADED FROM COMPUSERVE OR GENIE, OR YOU CAN GET IT BY SENDING $3. TO JOHN CALVIN TRAVER, 835 GREEN VALLEY DR., PHILADELPHIA, PA 19128. IF YOU LIKE IT, SEND $10. TO THE AUTHOR, J. PETER HODDIE, 12 PUAL REVERE ROAD, LEXINGTON, MA 02173.
NOTE: THIS PROGRAM ORIGINALLY MADE THE ROUNDS ON GENIAL TRAVELER DISKAZINE NUMBER SIX, BUT CONTAINED A SMALL BUG. FOR THE FIX, CONTACT MR. HODDIE.
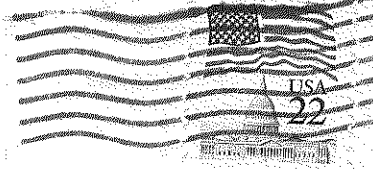
TURBO PASCAL 99 - A VERSION OF TURBO PASCAL FOR THE 99/4A. THIS IS THE PASCAL PACKAGE THAT MACK McCORMICK HAD BEEN TALKING ABOUT IN THE MICROPENDIUM. THIS IS SAID TO BE "AN INTEGRATED PACKAGE THAT INCLUDES A COMMAND PROCESSOR, FULL-FEATURED EDITOR, A SINGLE-PASS COMPILER, AND A LINKER. COST: $79.95. CONTACT: TEXAMENTS, 53 CENTER STREET, PATCHOQUE, NY 11772 (516) 475-3480

EDITORS NOTE: I WOULD LIKE TO THANK THE "K-TOWN 99ER' FOR THIS INFORMATION. I'M ALWAYS LOOKING FOR NEW PRODUCTS FOR THE T.I., AND THIS IS REALLY GETTING TO BE AN EASIER JOB EACH MONTH. IF I COULD PUT ALL THE SOFTWARE/HARDWARE THAT IS CURRENTLY AVAILABLE IN THIS NEWSLETTER, YOU WOULD PROBABLY SEE HUNDREDS OF PAGES OF THIS DENSITY. I'M NOT EXAGGERATING.

SEE YOU AT THE MEETING! J.F.W. - WP99NOV87

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