CONGRATULATIONS TO ALL THE NEW OFFICERS OF THE WEST PENN 99 ERS CLUB !!!!!!!!

PRESIDENT	SCOTT COLEMAN	412-271-6283
V. PRES.	CHUCK STRINK	412-668-2811
SECRETARY	ED BITNER	412-864-4924
COR. SCTY.	GENE KELLY	412-829-0469
TREASURER	JAN TRAVERS	412-863-1575
LIBRARIAN	CLYDE COLLEDGE	412-828-3042
EDITOR	JOHN WILLFORTH	412-527-6656

Well we finally were able to have the club's first ever election. And as you can see, we now have someone to BLAME FOR EVERYTHING ! I think that we have just about the BEST possible in each position. I know that there are those who could have performed well in the positions, and did not get nominated for a position, but remember that this is a club, and as such, we all have the responsibility to make it work. So just don't stand back and complain, roll your sleeves up and dig in.

This month's newsletter is the first to go only to the dues paying members, other users groups, and complimentary issues. If you are reading this because you got someone else's issue, and are wondering why you didn't get your own, please give me a call or write. You either didn't join, or I slipped up somehow with your issue.

I usually put off starting the newsletter until the last minute, because I like to give all of you a chance to get your articles in. The date is MARCH 1,1986, and the time is 7:pm., do you know where your article is? I can't wait any longer.

FEBRUARY MEETING...............................

Rather than me tell you what I remember of the meetings that we have held till now, we now have a real official secretary's report by Ed Bitner. You will find this on the next page along with the treasurer's report by Jan Travers. This job is getting so much easier already! Just to update the treasurers report, at the meeting we received 5 new memberships and $10. for some disks which brought the balance up even higher than that in this report.

EXECUTIVE MEETING HELD........................

On Tuesday evening the 25th, the board of officers, held a meeting to discuss direction, and to answer any questions that the new officers might have concerning the office that they were elected to. I think that much was resolved, and that you will see the benefits of the meeting, especially those who are not as taken up with the TI-99/4A as some of the rest of us, and are often left wondering "WHY AM I HERE?". Well this point has been drawn to our attention and in keeping with our desire to keep this a club for all the members, we are going to change the format of the main meeting to start with.

I'm starting to receive newsletters from other users groups throughout the country, and these are generally full of information that is both enlightening and useful. I'v seen at least three programs, for example, that will print out a file that is in DISPLAY VARIABLE 80 format, without the use of TI WRITER. This is very useful, of course, if you receive a program that has the documentation stored on disk, rather than in hard copy (printed on paper). There are suggestions on maintaining your hardware, organizing your software, and places to get both. It is the sharing of these newsletters that make us all stronger.

DATE OF NEXT MEETING------MARCH 17,1986
                TIME------7:00 P.M.
               PLACE------NORWIN YMCA
FOR DIRECTIONS, CALL------(412) 527-6656
BRING A FRIEND.

TOTAL CASH RECEIVED SO FAR
FROM DUES AND RAFFLE AT
DEC. MEETING ---

$451.00

TOTAL PAID OUT -- -----

total rent-- $30 (3 MONTHS)
disks for
club.   -- 40
mailing (Dec) 14.96
circuit board
for club   10.

94.96

TOTAL PAID OUT -- ----   94.96

WE HAVE A BALANCE OF $356.04

THIS HAS BEEN DEPOSITED IN A CHECKING ACCOUNT UNDER THE NAME OF "WEST PENN 99'ERS" AT THE IRWIN BANK AND TRUST, IRWIN, PA.   THIS WAS DONE ON FEB. 5TH AFTER CHECKING AT LEAST 5 OTHER BANKS IN THE AREA. I FELT THIS ONE WAS BEST.

THERE ARE THREE BRANCHES (IRWIN, RT. 30 AND PENN TWNSHP.).   THERE IS NO MINIMUM BALANCE REQUIRED. NO CHARGE EXCEPT FOR THE CHECKS (200 FOR $4.60). THERE MUST BE TWO SIGNATURES TO A CHECK (RIGHT NOW THEY ARE MINE AND JOHN WILLFORTH'S)

ANYONE INTERESTED IN SEEING THE BOOKS ARE WELCOME TO SEE THEM ANYTIME. ANY QUESTIONS? PLEASE ASK.

Practical Programming Practices (from LA 99ers)

"XBASIC SCREEN COLOR"
(corrected version)

Save program on disk under the name "LOAD". Screen will change to desired colors. Change line 110 to your desired display colors.
B = Background Color
F = Forground Color

```
100 CALL CLEAR
110 B=9 :: F=16
120 C=16#(F-1)+(B-1)
130 CALL INIT :: CALL LOAD(9984,C,C,C,C,C,C,C,C,2,0,7,15+B,4,32,32)
140 CALL LOAD(9999 48,2,0,8,0,2,1,139,0,2,2,0,8,4,32,32,36,2,0,8,8,4,32
150 CALL LOAD(1021,32,32,36,2,0,8,16,4,32,32,36,2,0,8,24,4,32,32,36,4,9)
160 CALL LOAD(-31804,39,8)
170 CALL LOAD(-31952,255,231,255,231)
```

Once you have decided what colors are the most pleasing to you, you may set them in the program permanently with a merge format, or the suggested xbasic "LOAD" file.

FOR THE RECORD
by Ed Bittner
Recording Secretary

The February meeting was called to order at 7:00 with John Willforth demonstrating how not to succeed with Micro...Pinball Game. This was immediately followed by the election of officers for 1986. No new nominations were made from the floor and the following were elected by secret ballot.

President..........Scott Coleman
Vice President.....Chuck Strink
Secretary..........Ed Bittner
Corres.Secretary...Gene Kelly
Treasurer..........Jan Trayers
Librarian..........Clyde Colledge
Editor(appointed)..John Willforth

A free raffle was held with two winners followed by a discussion of J. Willforth's "Poor Mans Gram Cracker" and a demonstration of "The Real Gram Cracker" by Scott Coleman. Features of the Gram Cracker ($165.00) include multi-storage of several (menu select) programs, battery back-up and the ability to save cartridges to disk (Milton Bradley types are exceptions, however).Scott also demonstrated Megatronics Extended Basic P.S. Version II ($85.00).

J. Willforth gave a 20 min. demo of TI Artist and someone, while I was elsewhere, put on a rendition of Axel F. A new updated version of the West Penn 99'ers library disk files was distributed and J. Willforth solicited requests of those who might want 32K expansion (in the console or speech synthesizer) for possible mass production ($40.00). Gene Kelly explained how P.O. Sapphire Software could be available to us.

There was also a short discussion of group liability insurance but this was referred to the Executive Committee. The meeting was adjourned at 9:10. Classes in Extended Basic (J. Willforth), Assembler (Clyde Colledge and Gene Kelly), and Basic (Chuck Strink) followed the meeting.

Strainfully submitted,
Scoops Bittner

PARTS
CALL...(806)762-7457
DEALER PARTS DEPARTMENT
P.O. BOX 53
LUBBOCK, TX   79408

PEB*
for Sale
CALL CHUCK STRINK
(hint he's the V.P)
Look on front page
for his phone number.

"Basic Color Show"

```
100 RANDOMIZE
110 CALL CLEAR
120 FOR A=1 TO 16
130 CALL COLOR(A,INT(16#RND+1)
+1,INT(16#RND+1)
140 NEXT A
150 CALL SCREEN(15#RND+1)
160 FOR A=1 TO INT(15#RND+1)
170 X=INT(19#RND+1)
180 Y=INT(19#RND+1)
190 W=INT(500#RND+1)#(RND+1)
200 FOR B=1 TO INT(10#RND+1)
210 Z=INT(13#RND+24)
220 CALL VCHAR(Y+INT(6#RND),
230 X+INT(14#RND),Z,W)
240 CALL HCHAR(X+INT(6#RND),
250 Y+INT(14#RND),Z,W)
260 NEXT B
270 GOTO 120
```

BASIC BASICS

by Charles Strink

Controling your computer...or Aw come on computer
go left....

There are several branching techniques. In this
article we will look at three. Unconditional,
Conditional and Multiple.

In the December news letter we discussed two of
the unconditional branching methods. The GOTO and
GOSUB. The unconditional branch tells the computer
to go immediately to a different line rather than
the next line number. You want it to go to that
line number and only that line number.

Conditional Branches may be handled by such
commands as IF-THEN , IF-THEN-ELSE or FOR-NEXT
loops.

IF-THEN CONDITION

IF is followed by an expression, such as A=5, or
B<15. If the expression is true, the computer goes
to the line number indicated after the THEN command.
If the condition is false, the computer then stops
and goes on to the next line number.

IF-THEN-ELSE CONDITION

As in the above explination if the expression is
true, the computer goes to the line number indicated
after the THEN command, but unlike the previous
statement, if the condition is false, the computer
will jump to the line number indicated after the
ELSE statement.

LOOPS

Another way to change the order in which the
computer executes statements is to use a FOR-NEXT
loop. When the computer reaches a NEXT statement
there is a conditional branch, either back to the
FOR or on to the next line. Really, the results are
much the same as an IF-THEN statement.

Multiple Branching can be handled by a variation of
the IF-THEN statement. This statement is the ON GOTO
statement which allows more branches from the same
statement. For this statement to work, more care
must be taken. Take the following example;

ON A GOTO 10,20,30,40

If A=1, the program goes to the first number, in
this case, 10. If A=2, the program goes to the
second number, etc. YOU MUST BE CAREFUL with this
statement. A must never be less than 1 or more than

the line numbers listed in the statement or the
program will crash.

In a coming article, we will discuss LOGICAL true/
false branching.

Until next time.....................................

...................................Happy Computing

*************** A WORD OF WARNING ******************
NEITHER I OR WEST PENN 99'ERS CLUB CAN ASSUME ANY
RESPONSIBILITY FOR ANY LOSS OR DAMAGE WHICH MAY
ARISE FROM YOU FOLLOWING WHAT IS PRESENTED IN THIS
ARTICLE. I HAVE TESTED THIS PROJECT ON MY OWN
EQUIPMENT AND I ACCEPTED THE RISK THAT IT MIGHT BE
DAMAGED. ANY MODIFICATION THAT YOU MAKE IS AT YOUR
OWN RISK.....CHARLES E. STRINK..................

LOCK UP STOPPER

For several years I have had a problem with
console lockup. You know how that goes, you just
finished typing in 1200 lines of code and forgot to
do a SAVE FILE. Now, the computer knows you didn't
save and it waits for you to press enter. When you
do, the screen flashes all kinds of pretty colors
and characters. In case you didn't know it, that is
how a computer laughs at you. Imediately after
laughing the console goes dead and nothing works.
  Upon a suggestion from John Willforth, I tried the
following two months ago and have not had a lockup
since. John and I thought you might be interested.

Befor you start be sure all cords , wires and
modules are disconnected from the console. Place the
console upside down on your lap with the keyboard
toward your stomach.

First, remove the On-Off switch by gently pulling
straight out from the cabinet. Next remove the seven
(7) Phillips screws from the bottom of the cabinet
and remove the cabinet bottom. Place it to the side.

The console board is the one with the metal shield
across the top. Remove the (3) Philips head screws,
(2) around the outer edge of the console board, and
(1) to the rear but set down in a recessed area
through a hole about an inch from the rear edge. DO
NOT REMOVE ANY SCREWS WITH NUTS ON THE OTHER SIDE.
Also you do not need to remove the power supply or
the keyboard. Grasp the metal console board and lift
it up until you can fold it over toward your stomach

and look at the underside. You will now see the
black module connector sticking up on the left side.
Grasp the module connector and pull straight up (the
connector board plugs into another connector) until
it comes free.

On the module connector, now in your hand you will
see a plastic snap on connector with a slot in it
and some fuzzy stuff around the inside. This is the
LOCKUP MAKER. Remove and discarde the plastic cover
and clean the inside of the connector with alchol on
a piece of clean cloth streched on a piece of thick
paper inserted into the connector. Plug the module
connector board back into the connector facing the
the same way it came out.

Gently fold the console board back over and place
it in the case. DO NOT FORCE THE BOARD INTO PLACE,
with some care it will slip into place. Replace the
(3) screws. Do not overtighten. replace the cabinet
bottom and the (7) screws. Now slip the Off/On
switch into place, reconnect the cables and get
ready for some lockup free programming.

This may not eliminate ALL lockups but will stop
the problems caused by a poor module connection.

```
150 GOTO 120
160 OPEN #1:"PIO"
170 PRINT #1:CHR$(27);CHR$(7
8);CHR$(8)! SET SKIP OVER PE
RFORATION
180 CALL CLEAR :: PRINT " EN
TER NAME OF DIS/VAR 80 FILE
TO BE READ" :: INPUT FILE$
190 IF WP=1 THEN 220
200 CALL CLEAR :: PRINT "PRE
SS SPACE BAR TO STOP THE SCR
EEN SCROLLING, RELEASE TO CO
NTINUE": : : :
210 FOR DELAY=1 TO 500 :: NE
XT DELAY
220 OPEN #2:"DSK2."&FILE$,IN
PUT ,DISPLAY ,VARIABLE 80
230 IF EOF(2)THEN 300
240 LINPUT #2:A$
250 PRINT #WP:A$
260 IF WP=1 THEN DISPLAY A$
270 CALL KEY(0,K,S)
280 IF K=32 THEN 270
290 GOTO 230
300 END
```

A bird
in the hand...
is worth zilch!

AND SO IS A TI-99 HOME COMPUTER THAT IS
STILL IN THE CLOSET, OR UNDER THE BED,
OR IN THE ATTIC, OR IN THE GARAGE. COME
ON, GET WITH IT, THE WINTER MAY BE LONG,
BUT YOU CAN GET CONTROL OF YOURSELF, AND
HAVE FUN, LEARN, JOIN A USER'S GROUP!!!!

Reading D/V80
sans TI-Writer

Not everyone owns a TI-Writer car-
tridge, and yet a lot of disk-based soft-
ware includes documentation designed
to be read and printed using TI-Writer.
The documentation is stored in a
Display/Variable 80 format, which is
the file type used by TI-Writer.

Although the TI-Writer cartridge
makes reading these files easy, users
can do without TI-Writer and read
their files, too. Below is a program by
Art Byers of the Central Westchester
99ers that appeared in the newsletter of
the Capitol Area Users Group of Har-
risburg, Pennsylvania. It requires Ex-
tended BASIC and a disk system. As
written, the program dumps the D/V
80 text file to a printer via the parallel
port. Users may also display the text
file to the screen.

Here's the program:

```
100 REM#DIS/VAR 80 READER BY
 ART BYERS
110 CALL CLEAR :: PRINT "DIS
PLAY VARIABLE 80 READER": :
: : :"ENTER 0 FOR SCREEN ";"
ENTER 1 FOR PRINTER"
120 CALL KEY(0,K,S):: IF S=0
 THEN 120
130 IF CHR$(K)="0" THEN WP=0
 :: GOTO 180
140 IF CHR$(K)="1" THEN WP=1
 :: GOTO 160
```

TK-WRITER REVISION JACKSON COUNTY 99ers VIA ATLANTA 99/4A U.G.

This a modification to the LOAD program that will cut down the wait when
switching from the EDITOR to the FORMATTER. This wait is caused by the assembly
language program being loaded back into the computer when the load program is
rebooted. This assembly language program, however, is still present in memory
if you haven't done something like turn off the computer or run some other
program. You can convert the LOAD program by replacing line 100 and adding
lines 102, 104, and 108 as shown below. Line 100 checks to see if the assembly
program is in memory. If not, it jumps to 108 and loads the program. If it is
in memory, the REF/DEF table and last free address are loaded, and you can
access the assembly code as usual. In plain talk, it will save a whole bunch of
time.

```
100 CALL CLEAR :: CALL INIT :: CALL PEEK(-2043,A,B):: IF A<>84 OR B<>75 THEN 108
102      CALL      LOAD(16360,85,84,73,76,     73,84,250,212,70,79,82,77,65,84,2
50,132,69,68,73,84,79,82,250,22)
104 CALL LOAD(8196,63,232):: GOTO 110
108 CALL LOAD("DSK1.WRITER")
```

Below is a Extended Basic program that will keep your disk drives
running until you push FCTN 4 (clear). Many disk drive cleaning kits
require the drive to run for 30 seconds. Use this program and stop
when the clean time has been reached.

```
10 CALL CLEAR
20 CALL SCREEN(13)::FOR C=1 TO 12::CALL COLOR(C,16,13)::NEXT C
30 DISPLAY AT(12,10):"CLEANING...."::DISPLAY AT(23,2):"(Hold FCTN
CLEAR to Stop)"
40 ON ERROR 60
50 GOSUB 70
60 GOTO 40
70 RUN "DSK1.B"
80 RETURN
```

Reprinted from June/July 1985 newsletter of the Wiregrass 99/4A Users
Group.

(from MID ILLINOIS's MICRO)

****

```
31990 FOR PAGE=1 TO 21 :: PRINT "abcdefg
hijklmnopqrstuvwxyz" :: NEXT PAGE :: PRI
NT "THIS PROGRAM RESTORES AND REDEFINES
ALL CHARACTERS THAT WERE REDEFINED. REMO
VE 31990"
32000 DATA 2010080000000000
32010 DATA 0000003848483400
32020 DATA 0040407048483000
32030 DATA 0000003840403800
32040 DATA 0008083848483400
32050 DATA 000018243C201800
32060 DATA 0018282038202000
32070 DATA 0000384848380830
32080 DATA 0020203824242400
32090 DATA 0010003010103800
32100 DATA 0010003010105020
32110 DATA 0040405060504800
32120 DATA 0030101010103800
32130 DATA 0000006C54545400
32140 DATA 0000007848484800
32150 DATA 0000003048483000
32160 DATA 0000705848704040
32170 DATA 000038484838080B
32180 DATA 0000002830202000
32190 DATA 0000182038083000
32200 DATA 0010103810101800
32210 DATA 0000004848483400
32220 DATA 0000002424281000
32230 DATA 0000004454542800
32240 DATA 0000002810282800
32250 DATA 0000004848301020
32260 DATA 0000003810203800
32270 DATA 0C1010303010100C
32280 DATA 000B0B0000080B00
32290 DATA 300B0B0C0C080830
32300 DATA 0000609009060000
32310 DATA 0000000000000000
32320 RESTORE 32000 :: FOR ZO=96 TO 122
:: READ Z$ :: CALL CHAR(ZO,Z$):: NEXT ZO
32330 ZZ$="0" :: FOR RESET=32 TO 143 ::
CALL CHAR(RESET,ZZ$):: NEXT RESET ! RESE
TS ALL DISPLAYABLE CHARACTERS
32340 CALL DELSPRITE(ALL):: CALL CHARSET
! CLEARS ALLSPRITES, RESTORES CHARACTER
SET
32350 CALL DELSPRITE(ALL):: CALL CHARSET
:: GOTO 31990 ! CLEARS ALLSPRITES, REST
ORES CHARACTER SET
```
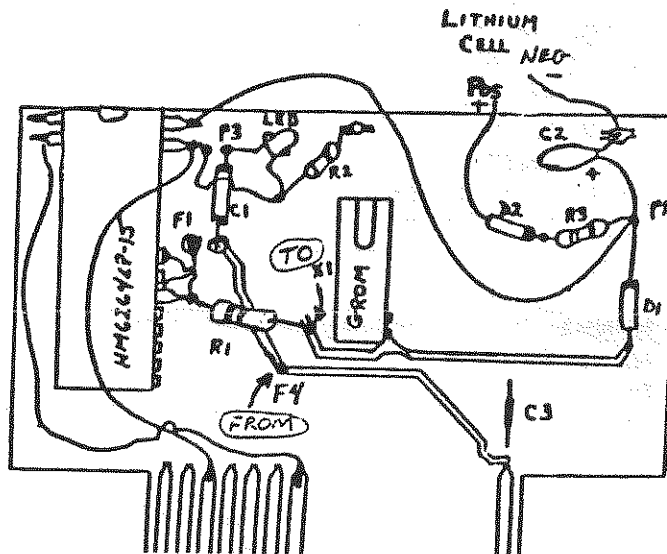
The above program was one that
I use to clear sprites, restore
the normal uppercase characters,
and additionally, yield a new lower
case character-set, which you may
like.

Remove line 31190 after you have
watched the demonstration of the
program, and the statement in line
32350, " :: goto 31190 ".

The reason that I needed this
program, was to clear out all the
redefined characters in programs,
where I wished to run another im-
mediately following, by using a RUN
"DSKX.YYYYYY".[1] The redefined char-
acters caused a minagerie on the
screen. Have this program "MERGED"
into yours, and GOSUBed to just
before your RUN"DSKX.YYYYYY", with
a RETURN inserted in place of the
removed GOTO in line 32350.

JOHN WILLFORTH

[1] This RUN "DSKX.YYYYYY" being in the first program
being run, and as such, is calling in a second program.

Update on SUPER CART

John Clulow has sent additional information regarding the construc-
tion of the SUPER CART module, articles about which appeared in the
June and July issues:

The published design of the SUPER CART module does not work
with a cartridge expander. To correct this, disconnect the resistor R1
from its F4 connection and re-solder it to X1.

Some modules, such as TI Invaders, have a capacitor at C3 rather than
a wire. The foil around the edge of the board must be grounded. To cor-
rect this, remove the capacitor at C3 and replace it with a piece of heavy
wire (such as a resistor lead). If this change is not made, the LED will
not light and the module will not function correctly.

A disk of software for SUPER CART which includes material to allow
any Option 3 E/A program to be loaded into the module for menu access
can be obtained from David R. Romer, 213 Earl St., Walbridge, OH
43465. Enclose $6 for the cost of disk, mailing and handling.

"Program Peeker"
By G Mineo

This routine should be saved
as a merge file. Merge this
into an X-Basic program and
type "RUN 30000". You will be
able to analize the memory.
S = Forward, other key = Back

```
30000 DISPLAY AT(24,1):"Star
t Byte>-1   (First=-1)"
30010 ACCEPT AT(24,12)BEEP S
IZE(-4):SBYTE
30020 DISPLAY AT(24,1):"High
 Byte> -2000"
30030 IMAGE BYTE##### INST>
#### ASCII @
30040 FOR I=SBYTE TO HBYTE S
TEP -1
30050 CALL PEEK(I,INST)
30060 DISPLAY AT(24,1):USING
 30030:I,INST,CHR$(INST)
30060 IF INST>128 THEN CALL
HCHAR(24,19,42)
30070 CALL KEY(0,K,S):: IS S
=0 THEN 30070
30080 IF K=83 THEN I=I+1 ::
GOTO 30050
30090 NEXT I
30100 END
```

32K Memory Checker
By
Joe Nuvolini
303-596-6938

```
110 PRINT "MEMORY EXPANSION CHECKER": : :
120 PRINT "SINCE PROGRAMS LOADED FROM DISK IN XB LOAD INTO THE
32KMEMORY, THIS PROGRAM SHOULD BE KEYED IN IF YOUR 32K CARD IS BAD!":

130 PRINT "TO USE THE INFORMATION PROVIDED BY THIS TEST ORIENT YOUR
MEMORY EXPANSION BOARD WITH THE TWO ROWS OF 4116 CHIPS AT THE  TOP.":

140 PRINT "ENTER: 1 TO CHECK TOP ROW OF CHIPS 2 TO CHECK BOTTOM ROW
3 TO END"
150 CALL KEY[O,K,S]:: IF S=O THEN 150
160 IF K<49 OR K>51 THEN 150
170 R=K-48
180 IF R=1 THEN A=-12288 ELSE IF R=2 THEN A=12287 ELSE IF R=3 THEN
CALL CLEAR :: END
190 IF R=1 THEN N=35 ELSE N=27
200 CALL CLEAR
210 IF R=1 THEN PRINT "TEST OF TOP ROW OF 4116'S." ELSE PRINT "TEST
OF BOTTOM RO W OF 4116'S"
220 PRINT :"READING FROM RIGHT TO LEFT..": :
230 FOR I=O TO 7
240 IN=2 I
250 CALL INIT
260 CALL LOAD[A,IN]
270 CALL PEEK[A,D]
280 IF IN=D THEN PRINT "CHIP U";STR$[N];" IS OK" ELSE PRINT "CHIP
U";STR$[N];"IS BAD"
290 N=N-1
300 NEXT I
310 PRINT
320 INPUT "PRESS ENTER TO CONTINUE ":X$
330 GOTO 100
```

   Hope you find this program useful. If you lose your 32K and need
help feel free to give me a call and I'll be glad to give you a hand
fixing it!

   Note: Will work with static ram memories if memory is GOOD! Chips are different capacities.

DOCUMENT PRINTER. . . . .
By: George Cehis

The following extended basic program allows you to print out instruction or help files
without using E/A or TI-Writer. Simply place the disk containing the files into your
drive after loading the program. This program will scan the disk for DV80 type files
and offers a menu selection for the files to be printed.

```
100 DIM PN$(127)
101 REM RESERVE SPACE FOR MAX NUMBER OF FILES ON DISKETTE
110 DISPLAY AT(5,3)ERASE ALL:"ENTER DISK DRIVE WHERE    FILE IS LOCATED:  1"
120 ACCEPT AT(7,19)VALIDATE("1234")SIZE(-1):N
130 CALL CLEAR
140 D$="DSK"&STR$(N)&"."
150 OPEN #1:D$,INPUT ,RELATIVE,INTERNAL
160 INPUT #1:G$,G,G,G
161 REM READ RECORD #0 ON DISK WHICH IS DISK NAME ETC
170 I=1
180 INPUT #1:A$,T,X,X
181 REM READ FILENAME,TYPE,SIZE AND # OF RECORDS NOT USED
190 IF LEN(A$)=0 THEN 231
191 REM TEST FOR LAST FILENAME
200 IF T=2 THEN PN$(I)=A$
201 REM TEST FOR DISPLAY/VARIABLE FILES, ONLY ACCEPT DV FILES
210 DISPLAY AT(I+3,3):I;".";PN$(I)
220 IF T=2 THEN I=I+1
```

```
230 GOTO 180
231 CLOSE #1
239 DISPLAY AT(23,3):"CHOOSE FILE TO PRINT BY #"
240 ACCEPT AT(24,3)BEEP VALIDATE(NUMERIC):CHOICE
241 F$=PN$(CHOICE)
260 D$="DSK"&STR$(N)&"."&F$
270 OPEN #1:D$,DISPLAY ,VARIABLE 80,INPUT
280 DISPLAY AT(5,3)ERASE ALL:"PRINTER DECRIPTION"
284 REM INSERT DEFAULT PRINTER IN LINE 285
285 R$="RS232/2.BA=4800,DA=8"
290 DISPLAY AT(6,3):R$
300 ACCEPT AT(6,3)SIZE(-LEN(R$)):P$
310 OPEN #2:P$,OUTPUT
320 PRINT #2:"":"":""
330 LC=3
340 LINPUT #1:A$
350 PRINT #2:A$
360 LC=LC+1
361 REM SETUP PRINTER OUTPUT FOR 66 LINES PER PAGE,
    3 BLANK LINES AT TOP
362 REM 55 LINES OF TEXT, SKIP PERFORATION
363 REM CAN BE DEFEATED BY FILES CONTAINING PRINTER
    CONTROL CODES
370 IF LC=58 THEN 380 ELSE 400
380 FOR I=1 TO 11 :: PRINT #2:"" :: NEXT I
390 LC=3
400 IF EOF(1)=1 THEN 410 ELSE 340
401 REM TEST FOR END OF FILE
410 CLOSE #1 :: CLOSE #2
420 END
```

DISK SWEEPER FOR BASIC PROGRAMMERS
BY
STEVE PATTERSON   (NEW HORIZONS)

The New Horizons TI-99/4A Home Computer Users Group, near Toledo, OH., has provided many programs, and hardware ideas over the years to the TI-99 WORLD. Below is another of their products, which will find a place in many libraries.

```
100 CALL CLEAR              NTERNAL,RELATIVE         ETED            PRESS ANY K
110 PRINT "      DISK SWEEP  230 INPUT #1:A$          EY"
ER          ERASE AN ENTIR  240 B$=A$                400 CALL KEY(0,K,S)
E DISK        IN LESS THAN  250 GOSUB 430            410 IF S=0 THEN 400
A MIN."                     260 R=R+2                420 END
120 PRINT                   270 INPUT #1:B$          430 IF R=24 THEN 510
130 PRINT "    STEVE PATTER 280 IF B$="" THEN 320    440 FOR U=1 TO LEN(B$)
SON"                        290 GOSUB 430            450 C$=SEG$(B$,U,1)
140 FOR T=1 TO 5            300 DELETE "DSK1."&B$    460 A=ASC(C$)
150 PRINT                   310 GOTO 270             470 CALL HCHAR(R,U+3,A)
160 NEXT T                  320 CLOSE #1             480 NEXT U
170 PRINT "PLACE DISK IN DIS 330 CALL CLEAR         490 R=R+1
K DRIVE #1   PRESS ANY KEY T 340 PASS=PASS+1        500 RETURN
O DELETE"                   350 IF PASS=5 THEN 390   510 PRINT
180 CALL KEY(0,K,S)         360 PRINT ">>> PASS #"   520 R=23
190 IF S=0 THEN 180         370 CALL HCHAR(23,13,PASS+49 530 GOTO 440
200 CALL CLEAR              )
210 R=1                     380 GOTO 210
220 OPEN #1:"DSK1.",INPUT ,I 390 PRINT "    COMMAND COMPL
```

This program operates out of TI BASIC ! The program initializes the catalog portion of the disk, and doesn't erase or reformat the rest of the disk . This action takes less than a minute, depending on how many files are on the disk. The program can be incorporated in a Data Base program, which would use a separate disk for the data base, and would enable the operator to clean up the disk right from the functioning program. Even further if the above program were to be used for this purpose, a BASIC cataloger could be useful in conjunction with it. Think on it for awhile, I'm sure you can find many uses for the above.

                                        John F. Willforth WEST PENN 99'ers

---

A NOTE ABOUT THE PERCOM TX-99 STAND-ALONE DISK DRIVE.........
by ERIC ZENO   (WEST PENN 99'ers)

I have had a PERCOM disk drive for about 3 years, but only recently wanted to add a second drive. Not knowing much about th PERCOM, I started asking around to see if anyone has ever tried to add a second drive. Not having much luck, I sent to the manufacturer for more information. I was out of luck again, PERCOM is out of the business of manufacturing disks.

Taking a chance, I just tried plugging in a second drive. It worked! In my case adding the second drive was as simple as 1,2,3 once I found that there was no one to give me a definite answer.

Additionally, I have been running my PERCOM as a single sided double density drive, but don't get to excited, this works only some of the time. I'm interested in finding out more about this problem.

EDITORS NOTE: If you have any answers or solutions, or even any further questions, please address them to me, at the address on the cover page of this newsletter.
                                        John F. Willforth

---

40 COLUMN MODE (XBASIC)   by Gary Noel

```
10 CALL CLEAR :: CALL INIT :: CALL LOAD(8196,63,248) :: CALL LOAD(16376,84,32,32,32
   ,32,32,48,0)
20 CALL LOAD(12288,2,224,131,224,2,1,240,129,216,1,131,212,216,1,1,193,216,1)
30 CALL LOAD(12308,140,2,2,1,244,135,216,1,140,2,6,193,216,1,140,2,6,155)
40 CALL LINK("T")
50 INPUT A$ :: IF A$="C" THEN CALL CLEAR
60 GOTO 50
```

HOW TO CONVERT ASSEMBLY PROGRAMS TO PROGRAM FORM FOR FASTER LOADING AND LESS DISK SPACE.

Written by Darren Leonard PUG
on an idea by Marty Kroll Jr.

If you have ever loaded an assembly program with editor/assembler option #3 you may have noticed that it takes quite a while to load. With some programs this can take over 2 minutes. These types of programs are in Dispay/Fixed 80 format which we are going to change to PROGRAM format to load with OPTION #5. In addition to loading 3 to 5 times faster, programs stored in program format, ie Memory Image, take as little as 1/4 the disk space of D/F 80 files.

The method outlined in this article will work on 95% of all Assembly D/F 80 programs. Prior to writing this, I tried it on 20 programs and it worked on 19 of them. It will even allow you to save a ASSEMBLY program to cassette. Thus people with and E/A and 32K can run assembly programs!

To begin with read page 420 of the Editor/Assembler manual. Try your program the way they outline it. If you get an error then read on and I will explain in detail how to get around it.

This section describes the procedure for D/F 80 files that DO NOT AUTOSTART!, if your program does autostart read down a few paragraphs on how to remove it with DISKO.

1) Plug in your E/A and call up TI-BASIC, your E/A must be plugged in!

2) Type " CALL INIT"
         " CALL LOAD("DSK1.FILENAME")

3) If your program has more that one file type in all the remaining files in order as follows:
   " CALL LOAD("DSK1.GAME#1")
   " CALL LOAD("DSK1.GAME#2")
   " CALL LOAD("DSK1.GAME#3")
   get the idea?

4) Type "CALL PEEK(8228,A,B)"
          PRINT A,B

5) Now 2 numbers will appear on the screen, one on the left and one in the middle of the screen. This number corresponds to the first free address in the memory which is also the last address of your program.

6) Convert this numbers to hex and add A+B to come up with a 4 digit hexadecimal number. Since you program is normally loaded in memory from addresses >A000->FFD7 if you get A000 for A+B then you program has an Absolute Origin statement (AORG) and you will not be able to convert it with this method. Similarly, if A+B is A780 or smaller then the program is loaded in a unusual manner since it cannot fit in the small area from >A000-A780. But if you come up with A+B=B000 or greater then this method will work 99% of the time.

7) Type " BYE " and call up the editor. Now type in the small assembly program listed here:

         DEF SFIRST,SLAST,SLOAD
   SFIRST EQU >A000
   SLOAD EQU >A000
   SLAST EQU >A780 (the value of A+B)
          END

   NOTE!! PUT THE HEX NUMBER OF A+B IN
           THE PLACE WHERE A780 IS!!!!!

   Hit Fctn 9 twice and save to disk.

8) Load the Assembler.

   For source file enter what you save in step 7.

For object file type DSK1.GAME#4 or what you want.

Hit return for the printer output.

TYPE "RC" when it prompts for assembler directives.

It will then assemble the program. You shouldn't get any errors.

9) Now load E/A option 3.
   Enter your filename DSK1.GAME#1
                        DSK1.GAME#2

   Then enter the assembled filename from DSK1.GAME#4 step 8.

10) Insert E/A disk #2 into drive one and load file " DSK1.SAVE". Hit enter and type "SAVE" for the program name. Follow the screen input prompts.

11) Now hit FCN + and call up E/A option #5 and type DSK1.YOURFILE and wala'

HOW TO CONVERT FROM DECIMAL TO HEXADECIMAL.

This might appear quite intimidating but assure you that it is very simple. I will not go over the priciples of HEXIDECIMAL numbering systems because that is beyond the scope of this aticle, I will how ever show you how to convert to it.

Decimal	Hexadecimal	Binary	Octal
0	0	0	0
1	1	1	1
2	2	10	2
3	3	11	3
4	4	100	4
5	5	101	5
6	6	110	6
7	7	111	7
8	8	1000	10
9	9	1001	11
10	A	1010	12
11	B	1011	13
12	C	1100	14
13	D	1101	15
14	E	1110	16
15	F	1111	17
16	10	10000	20
17	11	10001	21
18	12	10010	22

AD INFINITUM ....

The number in the left column represents the numbers you are familiar with. In the second ,third and forth columns are the equivalent numbering systems.

Take A from step 4 above .
say it is 213 which is in decimal.

Divide by 16   213/16=13.3125
Take the part to the left of the decimal point, which in this case is 13 and convert to Hex from above chart 13=D.

Now take 213- (13*16)=5 and this =5 in hex. Therefore your hex number is D5 which equals 213 decimal.

Do the same for B and add the D5 to what you obtain for B. If the first didgit is not a A,B,C,D,E or F you have and invalid address or you have incorrectly converted to hex.

By doing the exact reverse of the above you can go from HEX to DECimal.

TROBLESHOOTING THE PROCEDURE

If you encountered and error in steps 1-11 above there is still hope!

If you received an error in step 9 when you attempted to load your asseebled program, and that error was a "DUPLICATE DEF" you may attempt to figure which is the duplicate:SFIRST,SLAST or SLOAD by two ways.

1) If you have DISKO load it up and search your program file for SFIRST,SLAST or SLOAD on you disk and change them to TLOAD,TLAST or TFIRST AT EVERY PLACE they occur!! BE SURE TO CHECK THE LAST 3 SECTORS OF THE PROGRAM THOROUGHLY!!!

   Then go back and try STEP 9 AGAIN.

2) Change the Assembly program in 7 to allow all combinations.

            DEF SFIRST,SLAST
   SFIRST EQU >A000   Try it elimin-
   SLAST EQU >A+B   all three one at
          END   a time.

   if that doesn't help try eliminating 2 of the words:

            DEF SLAST   Then try using only
   SLAST EQU >A+B   SFIRST then SLOAD.
          END

   If this doesn't work you will have to wait untill part 2 of this article comes out.

HOW TO ELIMINATE AUTOSTART FUNCTION ON D/F 80 PROGRAMS.

If your program autostarts, you cannot use the above procedure because it will take over controll of the machine. You can remove that feature if you have DISKO.

Load up DISKO and examine the last 3 sectors of your program for the following

(in hex mode) 20314523462020
                 ^^   ^^

They thing to look for is the 31 and the 46 with and address between them. Change the 31 to a 40 or change the entire sequence to 20

after change it should look like this:

   20202020202020 or 20404552462020
     ^^ ^^   ^^ ^^

IMPORTANT! MAKE SURE YOU DO THIS ON A BACKUP COPY OF YOUR PROGRAM ONLY!!!!!!

You may need to look back a few more sectors if you are unable to find it in the last 3.

Incidentally, you may be able to find the program name of you program if you forget it by search the last 2 sectors of the program for the word.

Also the 31xxxx46 must come befor the :99/4 code on the last sector of the program.

I hope this article is useful to you and if I get around to it I will write another article on how to convert those unusual programs that cannot be done with this method.

Darren Leonard Editor PUG
1218 Michael Dr
PGH PA   15227

Using your new disk.
By Darren Leonard

It has been drawn to my attention that a considerable number of our members are encountering same difficulty getting the programs on the Disks of the Months to run. In the column I will attempt to provide you with a concise and foolproof method to get any program running so long as it is not written in for or Pascal.

The first and most logical thing to do is catalogue the disk using your disk manager module or DM1000 or some other suitable program.

You catalogue should look like the following.

Diskname: Pug DOM9/85
Used 340   Free 20

Program	Size	Format	P
MYFILE	22	PROGRAM	
MYFILE1	69	INT/VAR 254 - EXBASIC	
MYFILE3	49	DIS/FIX 80	
STARGAZE	33	PROGRAM	
STARGAZE	35	PROGRAM — E/A #5	
SPACENAME	9	PROGRAM	
STARGAZE1	47	PROGRAM	
DATAFILE	87	DIS/VAR 80 — TI WRITER OR EDITOR ASSEMBLER	
SCRABBLEv1	57	INT/FIX 123	
GAME*1	60	DIS/FIX 80— E/A #3	
GAME*2	46	DIS/FIX 80	

These are most of the possible file types you might recieve.

1) Any DIS/VAR 80 type file like 'DATAFILE' above are usually text or documentation files that should be read with an editor such as TI-WRITER or the Editor/Assembler package. Alternatly, you may use this short MX BASIC program.

```
10 OPEN #1:'DSK1.DATAFILE'
20 OPEN #2:'PIO'                    PUT printer specs in here
30 IF EOF(1) then 70
40 INPUT #1:A
50 PRINT #2:A
60 GOTO 30
70 CLOSE #1
80 END
```

2) Any file with a size greater than 50 and saved INT/VAR 254 is a long Extended Basic program that requires memory expansion. To use this program you would OLD DSK1.MYFILE2   RUN from XBasic.

3) Any file of the format DIS/FIX 80 is an Assembly language program that can be loaded several ways. The sure fire way is to use the load and Run option of an E/A cartridge or a MiniMemory Cartridge. You might need the Program name to start it. If it is not given to you, search the last 5 sectors of the program with DISKO to look for it. Usual program names include: START,BEGIN,BOARD,GAME,LOAD,RUN etc.

If you do not have an E/A or a ROM then you MAY be able to load it with Extended Basic.Memory Expansion is a MUST. You also need the program name to do this. Here is an example of an Extended basic program to run MYFILE).

```
10 CALL INIT ----initializes memory expansion and prepares for loading
20 CALL LOAD('DSK1.MYFILE') --Loads the program into memory
30 CALL LINK('START') --Starts the program IF start is the program name.
```

This will work most of the time, but not always. Therefore your best bet is to use an E/A or ROM if you have one.

4) Any file that is in program format and is EXACTLY 33 sectors in size is most likely an assembly program file that will load out of option #5 of the Editor/Assembler module or the Utility option of TI-WRITER. Alternately, you may load it through Extended Basic if you have the "GAME" loader program.

5) Files that are program format and are longer than 33 sectors are either Basic or Extended Basic. Usually try Extended Basic first. If you get error try Basic. It might be necessary to free extra memory in console basic if you get a memory full error. To do this type:

Call Files(1)
New
Old Dsk1.Spacegame
Run

If you still get a memory full error then it should be an extended basic program.

6) Any file in a program format that is less than 33 sectors could be a Basic, Extended Basic or Assembly program. Try them in that order.

7) Any file that is in Program format and is 52 sectors long could be a Tunnels of Doom file. If you have the Tunnels of doom Module try it. If it is 54 sector long it could be an adventure game; if you have the adventure module try it.

8) When you have 2 consecutively named Dis/Fix 80 files, you must load the second file BEFORE you give the program name.

9) Any other type of format is most likely a data file that is used by a program on the disk. They will not run, unless it is a merge format, but in general should be left on the disk with the other program.

I hope you found this to be useful and if you have any question, bring then to my advanced Extended basic class, it seems like a good topic to cover. Happy holidays--DFL

OR CALL: 412-885-1502

STATUS OF 32K CONSOLE MEMORY...

I've been putting 32 of static RAM in consoles for 4 months now, and to date have practiced on about 13 consoles and 2 speech synthesizers, and am now putting it into an older stand alone TI disk controller, a modest expansion system, if you will. I believe that there is a real need for this kind of hardware for the TI, and evidently so do the people at the CEDAR RAPIDS USERS GROUP, the WESTRAILIA GROUP, and TACHYON. TACHYON has recently released a 32K standalone memory for the TI, which is advertised as being smaller than the speech synthesizer, and costs $50.

I do not have an accurate feel for the acceptance for a SEMI-KIT 32K memory unit, that could be installed inside the console by a person of minimum soldering ability, in less than half an hour, and would cost $40. at the very most. I must know if there would be a market. If you are interested, please send a SASE to : JOHN WILLFORTH   RD#1 BOX 73A JEANNETTE, PA 15644 or call: (412) 527-6656

*** DFX-PRINT ***
HARDWARE FOR 'LOAD' SUBPROGRAM

by Data-Flex Software, 4420E 100N, Marion,IN 46952

Copyright 1984   Drawings done on THE SUPER SKETCH PAD

Have someone competent with computers and electronics wire this if you want to use it and you don't want to do it yourself.Carefully count the pins when making the connections. Triple check your work!!!

The switch and its connections may be placed anywhere on the IO bus. Inside the console, the expansion box, or ther speech synthesizer. The speech synthesizer is the most convenient and the switch can be glued down or mounted under the cover that tilts up and away from small children and other accidental use. The best switch to use is a microswitch such as Radio Shack #275-016. However, for console mounting a push button switch of high quality will do. Make sure you get the normally open contacts!

Use of the switch when DFX-PRINT or another program which uses it is not loaded into memory will lock up the console requiring a reset back to the title screen of the console. Pressing the switch a second time will confuse the computer if it is done before DFX-PRINT has finished the current print operation. Do not use DISK file output with SUPER SKETCH or other bit map video programs.

DATA FLEX SOFTWARE and/or its owners shall not be responsible for accidents and/or damage resulting from this design and/or its use. Refer to the TI 99/4A Technical Data Manual for further details if desired.

RIGHT SIDE of CONSOLE — IO BUS

SPST SWITCH

TI 99/4A IO BUS — LOAD — SYSTEM GROUND
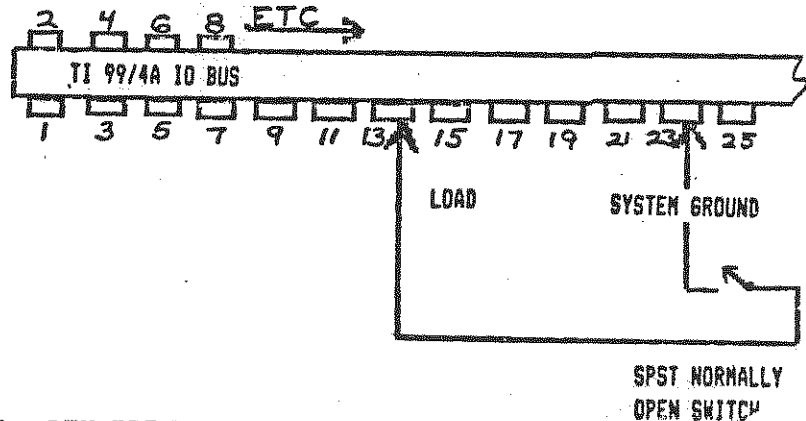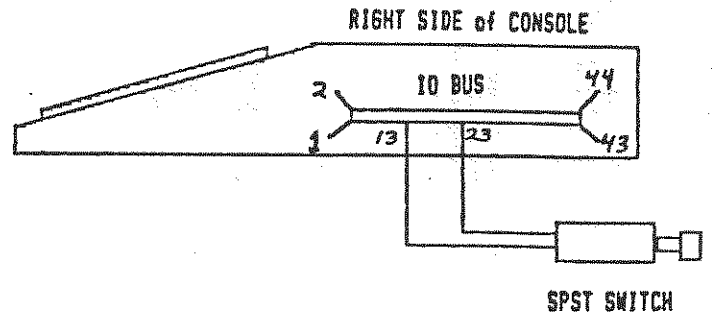
SPST NORMALLY OPEN SWITCH

The reason I have copied this page out of the DFX-PRINT manual, is so that   you might see how easy it is to install a LOAD INTERRUPT SWITCH in your console, or the speech synthesizer. I've only recently started to use a LIS, and have found that there are very few programs, cartridge or otherwise, that will not allow screen dumps using this switch, in conjunction with the DFX-PRINT Software. Please also note that there is other software available that will work with this same switch, quite often it is in your own User's Groups Library!!!!!!!
****

WEST PENN 99'ers RAFFLES OFF SPEECH SYNTHESIZER WITH 32K MEMORY.........
    If you can make it to the next meeting, or can get in touch with me before the next meeting, you may be the winner of a speech synthesizer with 32K of RAM Expansion memory inside. For $5. per chance, and your old speech synthesizer (if you win), you can take away a BRAND NEW 1986 " 32K MEMORY SPEECH SYNTHESIZER ". You say " BUT I DON'T HAVE A SPEECH SYNTHE-SIZER ! " , well have I got a deal for you, I'll put 32K in your very own console, and for no additional cost, install the Load Interrupt Switch, and as a temporary BONUS for those who respond quickly (I didn't say how quickly) , I'll do the old anti-freeze move on your console !! Now if you can find a good reason to stay home on MONDAY, MARCH 17, 1986, at 7:00 P.M., from the NORWIN YMCA, I'd be interested in knowing about it. Oh ! there is one little catch, and that is you must be a member of the WEST PENN 99'ers, or are joining at the time. You wouldn't want us to get into trouble with the law, by running a raffle outside of the club environment, would you? I'll be giving away only the memory/speech synthesizer or the memory upgrade to your console, not both. At least not both this month !
                (412) 527-6656   John F. Willforth
                    RD#1 BOX 73A
                    JEANNETTE, PA   15644
****

DON'T FORGET: BASIC SIG at 8:15 PM with CHUCK STRINK
              ASSEMBLY at 8:15 PM with CLYDE COLLEDGE and GENE KELLY
              EXBASIC   at 8:15 PM (if we can find the space to hold it)

sapphire software

X-xbasic E-editor/asm M-minimemory CARTRIDGE T-ti-writer PRICE CHECK

#	PROGRAM NAME	SAPPHIRE SOFTWARE BONANZA DESCRIPTION	CARTRIDGE	PRICE	CHECK
1)	PUG WRITER	TI-WRITER LOADER & FILES	XB	$10	
2)	UPDATES	TI-WRITER AND MULTIPLAN	T,MP	$5	
3)	TI-FORTH	LANGUAGE AND MANUAL	E & FORTH	$15	
4)	FORTH GAMES	SEVERAL GOOD FORTH PROGRAMS	E & FORTH	$10	
5)	TI-RUNNER	ARCADE GAME WITH 50 SCREENS	E,M	$10	
6)	BASIC COMPILER	COMPILES XBASIC SUBROUTINES	X	$10	
7)	TILE BREAKER	ASSEMBLY "BREAKOUT GAME"	X,E,M	$10	
	BOXER	ASMB BOXING GAME(2 PLAYERS)	X,E,M		
8)	D-STATION	ASSEMBLY SPACE BATTLE GAME	X,E,M	$10	
	D-STATION II	CONTINUATION OF D-STATION	X,E,M		
9)	STARGAZER I	MAPS CONSTELLATIONS	E,T	$10	
10)	STARGAZER 1,2,3	MAPS OUT DOZENS OF STARS	E,T	$20	
11)	SCRABBLE	ASMB COLOR + 20,000 WORDS	E,T	$10	
12)	MASS COPY 1 & 2	DISK COPIERS	X,E,M		
	DISKO	DISK SECTOR EDITOR	E,M	$10	
	TESD	TERMINAL EMULATOR	E		
13)	FAST TERM	BEST TERMINAL EMULATOR	E	$10	
	DM1000V2.0	BEST DISK MANAGER	E		
	DM1000V1.0	DISK MANAGER	X		
	VDT	TERMINAL EMULATOR	E,T		
14)	SUPER DEBUGGER	ADVANCED DISASSEMBLER	E,M	$10	
	TI-DIS-ASSM	TI's DISASSEMBLER	E,M		
	MARTY'S CATLGER	SEE OCT NEWSLETTER	E,M		
	MARTY'S DISSAM	BY MARTY KROLL JR	E		
	TICK	INTERRUPT DRIVEN CLOCK	X		
15)	MASS TRANSFER	ASSM FILE TRANSFER UTILITY	E	$10	
	DISKO2	DISK SECTOR EDITOR	E		
	COMPACTOR	COMPACTS DIS/FIX 80 FILES	E		
	UNCOMPACTOR	UNCOMPACTS DIS/FIX 80 FILES	E		
	DISSASSEMBLER	YET ANOTHER DISSASSEMBLER	E		
16)	The disk manager	Good DM program	E	$10	
	DM1000v3	Updated version	X,E		
	Fast-Term	Terminal Emulator	E		
	Fast-Docs	Docs for fast-term			
17)	Diagnostics1	Checks P-cards	M	$10	
	Diagnostics2	Checks console	X		
	TI-runner edit	edit ti-run screens	X		
	Breakout	assembly game	E		
18)	File Transfer	Transfer Adventures	E	$10	
	Clydes Loader	Load assembly in Xbasic	X		
	Spotshot	Assembly Game	E,X		
	Cubit	Cubert Assembly Game	X		
19)	Funnel	Menu driven program that	X	$10	

has a bunch of utilities
like copiers,dms and others.
Must have!

20)	Printer disk	PRINTS PICTURES(3 DISK SET)	X & PRINTER	$10	
21)	DOM OCT 1985	VARIOUS PROGRAMS	X	$5	
22)	DOM NOV 1985		X	$5	
23)	DOM DEC 1985		X	$5	
24)	MYSTERY DISK	COMBO OF FORTH AND ASSM DSSD	X	$10	
25)	Midnight Mason	Assembly Game	X,E		

>Mini Survey< optional!
Check the items that you own

optional!

P-Box	TI-writer Cartridge
Xbasic	Multiplan
Minimemory	Cassette Recorder
Rs232	Modem
Disk COntroller	Printer
Single Sided Drive	Adventur Module
Double sided drive	Gram Kracker
editor assembler	Ram Disk Card
P-code	Speech Synthesyser
tunnels of doom cart	Widget
joysticks	TI-Artist
color tv or monitor	Game

I am interested in

#	PROGRAM NAME	DESCRIPTION		PRICE	CHECK
26)	Micro Pinball	Assembly ->EXCELLENT!<-	X,E	$10	
27)	Monopoly	From Australia	E	$5	
28)	AsTiroids	Assembly-manual	E,X	$5	
29)	Arthropod	Assembly centipede clones	E,X	$10	
30)	Beyond Space	Assemb Game (Parsec*2)	E		
31)	Face Chase	Assembly Games	E	$10	
	Great Word Race	Assembly	E		
	Star Trap in 3D	Fantastic 3D space game	E		
32)	C-Language	With PRINTED manual	E	$10	
33)	TI-Pilot	2-disks	E	$5	
34)	Multiplan Tips	by Ted Andersen	Mp,Tw	$5	
35)	Martys Disambler	By Marty Kroll Jr.	E	$5	
36)	Martys Cataloger	LATEST VERSION!!!	E	$5	
37)	Clydes Loader	Assembly into Xbasic	X	$5	
38)	SuperBugII	By Edgar Dohman	E	$5	
39)	Screen Dump	Uses Load interrupt switch	E,X	$5	
40)	Neatlist	Cross References Program	X	$5	
41)	Pr-BAse	Data-Base Program (DSSD)	X	$5	
42)	Teckie BBS	set up your own bbs	X	$5	
43)	TI-Writer Loaders	Editor-assembler version	X	$10	
		Minimemory Verson	Minimem		
		Xbasic (includes Show Directory)			
44)	DOM Jan 1986	Music Programs	E,T	$5	
45)	DOM FEB 1986	DONT MISS THIS ONE!!!	X,E,ToD	$5	
46)	Dom March 1986	Miscellaneous Programs	X	$5	
47)	Spies Adventure	KGB vs CIA	X	$10	
	Galactic BAttls	Interplanetary war zone	X,E		
48)	TI-TOad	Assembly Frogger Game	X	$10	
49)	Jet Graphics	Utilities (2-disks)	X	$5	
50)	Universal Dissasembler	By Renee LeBlanc	Mini,E	$5	
51)	Enhanced FOrth	By Renee LeBlanc		$5	
52)	Mystery Disk #2	Games,Utilities ?????	E,X,M	$5	
53)	New Membership			$17	
54)	Membership Renewal			$12	
55)	Newsletter Subscription only			$7	

subtotal of order items ----- >$ .00
Amount enclosed ----- >$ .00

Name _____

Address _____

City _____ State _____ ZIP _____

Phone ( ) - _____ Membership Expiration Date / /19__

Today's date / /86

Mail This Entire outside page of newsletter to address below. I will mail it
back with your order so that you will not have to destroy your newsletter.
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below. Thank You and we want to know what you think about sapphire software.
please tell us at meetings, I like to know what you are looking for.

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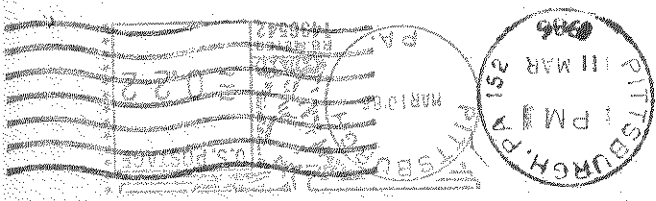PUG Sapphire Software
XDarren Leonard
1219 Michael Drive
Pittsburgh Pa 15227

Any problems with sapphire software you recieved? Call me and lets see what we
can do. Do not call on Mondays. Late afternoon be time to catch me. Thank you
for supporting YOUR club. I will have new $$ next month.

Items marked with an * may be ordered by PUG members only

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D STation I & II