Vol.8 No.01 January 1990

NEW HORIZONS

NEWS LETTER

NORTHWEST OHIO COMPUTER CLUB FOR THE TEXAS INSTRUMENTS 99/4A

AND THE MYARC GENEVE 9640 PERSONAL AND HOME COMPUTER

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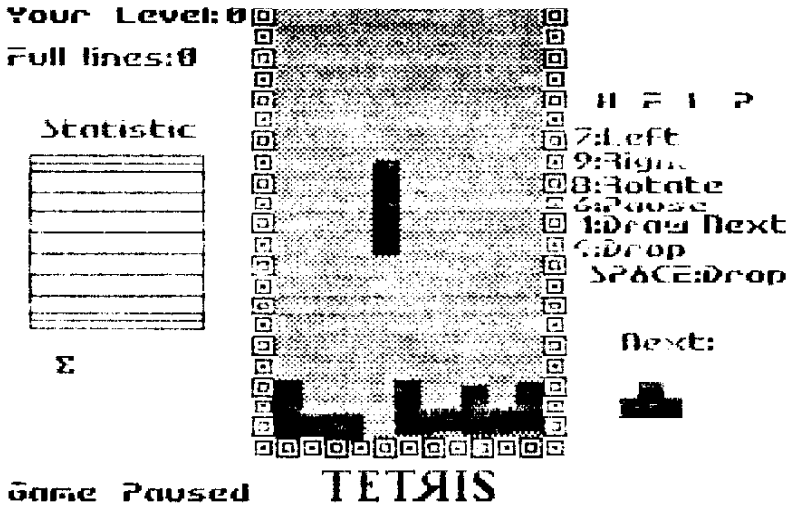
THIS MONTHS MEETING JAN.13,1990 SATURDAY AT UNITY CHURCH 12:30 PM.
Behind Wendy's off Secor Road on Executive Dr.

TI-COM BBS.....		1-419-385-7484
PRESIDENT...Bill Tiep	ADDRESS 5926 RAMBO LN TOLEDO, OHIO 43623	1-419-475-1775
VICE-PRES...Charles Strobell		1-419-829-3527
SECRETARY..Marilyn Schafstall		1-419-882-6870
TREASURER..Earl W.Hoffsis		1-419-475-0461
SOFTWARE LIB.John&Chris Dewey		1-419-475-3871
NEWSLETTER LIB. Burr Mallory		1-419-882-6769
EDITOR....Roger Feinauer		1-517-263-6144
COMPILER..Judy Feinauer		" ....



N.W. OHIO 99'ERS USER GROUP
%FIRST CHURCH UNITY
3535 EXECUTIVE PARKWAY
TOLEDO OHIO 43606
ATT EARL W. HOFFSIS

PRESIDENT'S CORNER

Bill Tiep

NEW YEAR MESSAGE

by Bill Tiep

First let me thank all of those who railroaded er I mean voted me as your PRESIDENT to OUR club. I wont make any rash promises, but will try to do a good job for you.

I would like to thank all of those that donated food for our year end meeting. I would also thank those that helped organize our feast.

If you have NOT paid your 1990 MEMBERSHIP; please do so at the January meeting or mail your check to Earl Hoffsis. Now more than ever YOUR group membership is important to YOU. Your membership will let you get the newest software and freeware available as well as keep up with hardware developments.

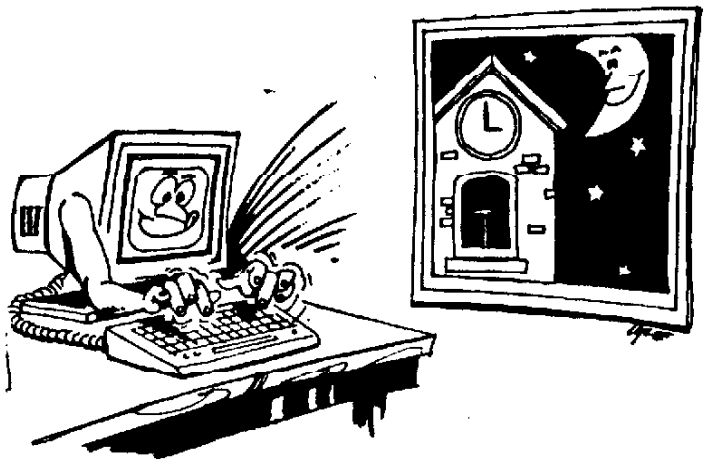
YOU have heard this many times before and will hear this again ---- This club is YOUR CLUB ---

The January disk is TETRIS obtained from our newsletter editor, Roger Feinauer. Also Arthropod (game) which is very good.

I would like to thank those past officers for jobs well done.

January 1990						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February 1990						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			



As we start a New Year I hope everyone had a great one and with lets get on with an other article. First I want to well come our new staff and lets all try to make their term in office the best. I should think that each and every member will do there best to help out. With this you know I will.

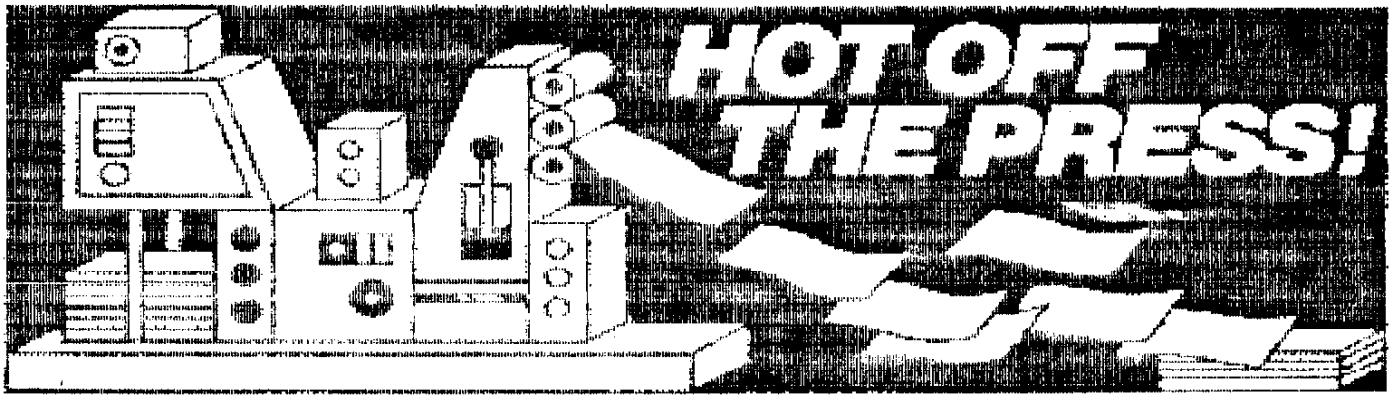
What do you want to see in the pages of the news letter? Let me know and I or one of the staff will try are darnest to get it in here. Come on make me work, every year I say this, this is the start of year number four. And about every year about this time I ask what do you want in these pages, and every year it's the same thing nothing. It's your money that puts these news letters togather would do the same thing if I was working on your car???

Got my Geneve back last week and had it running a whole 24 minutes and it died again well its back to Myarc, and I hope they can fix it right the second time. One thing I did notice was that Mdos 1.14 booted from the boot prom. It didn't seem to be looking for an autoexec bat file. Which by the way would be nice but then maybe it was looking for a hard drive. But it was hard to tell as it only ran for 24 minutes.

In the last two weeks I have rediscovered a program called Explorer that I have had for almost three years, but as it didn't run on the Geneve it didn't get much use. But lately I have been making up for lost time. What this program does is allow you to look at the TI system while its running a program and to switch back and forth between the screen that you normaly see when the program is running and a screen of Cru,VDP,and the Grom resisters. You can stop the program at anytime and see what is happening. There is also a memory editor which can be adjusted to fill the screen if you wont to. It is very much like the the Gram Kracker or PGram Editor. you can also type in and change address' at will. Also there is a small Dissembler at the bottom of the page so you can follow the source code as it is being run. If you ever wonder how the system worked this is a good start. also there is 106 page manual telling how to explore everything from XB programs to How Cart programs run out of GPL. This is a very fine program from Miller Graphics.

In last months editers column I mentioned my wish that someone should expland the Merge function of Extended Basic. Will I talk to Myarc about it and they said that enough persons would write them about an interest in this type of explansion it would only take a couple of days for them to add it into the Gram space . For those who didn't read my last months article. I mention that it would be nice if the Merge function in should be rewrote to allow it to work from a running XB program. That not only should it look for a file in merge format, but also be able take only the line numbers you specify from that program and place were they are needed in the running program. and also it sould be able to also look for a string

CONTINUED ON PAGE 6



New Horizon Computer Club at 12:55 p.m. on December 9, 1989, by Don Turner, President, Pro Tem.

Since the minutes of the November meeting were printed in the newsletter, they were accepted as print

Earl hoffsis gave the treasurer's report. After dues were received and bills paid we have a balance of $507.73 on hand. The report was approved as read.

Dues are now due. If they are not paid the newsletter will no longer be sent to the former members.

At our drawing today, the following gifts were won by: 1) the book, "Program for the TI99/4A - Gail Divan; 2) Disc cover - Ken Symington; 3) Santa salt and pepper shakers - Andy Andrews; 4) Program:Page Pro-99 - Jo Symington; 5) Cassette Cord - Judy Feinauer. This was the Symington's lucky day, as Jo also won the 50/50 drawing;feeling generous during this Christmas season, she accepted 10 as her share, giving the club $13.

Don Turner asked for the report from the Nominating Committe. Earl presented the names: Bill Tiep, President; Charles Strobell, Vice President; Marilyn Schafstall, Secretary; and Earl Hoffsis, Treasurer. Don then asked for nominations from the floor; as there were none, Earl moved that nominations be closed, and that a unanimous ballot be for the slate. Ellen Thompson seconded the motion. The slate was approved.

The members thank Roger Feinauer for his services as Editor in the past. He agreed to continue in this position.

We took a break for our Christmas buffet, many "goodies" all provided by the members. The

Page Pro-99 was demonstrated today, after which the meeting was adjourned.

Respectfullt submitted,

Marilyn Schafstall, Secretary

KIDS PAGE

xx by Jo Symington NEW HORIZIONS

Fun For the Kids

RE. "Basic Beginnings" By Susan Drake Lipscomb and Margaret Ann Zuanick. I found this book in a used book store. Mrs. Lipscomb has a Masters Degree in Education and Ms. Zuanich has a Master Degree in Business and she has extensive experience in Computer programming. The book was copywrited in 1983. This aim is to teach simple programming concepts. I thought it would be nice to have a column for children. Hopefully we can have a monthly one for the kids. Exploring Print:-(The computer writes.) There are a few programs to get started, Maybe you can make some up by yourself.

```
Program 100 Print "What gets wetter and wetter"
            110 Print "The more it dries?"
            120 Print
            130 Print
            140 Print
            150 Print "A Towel!!!"
```

Run What gets wetter and wetter
the more it dries?
atowel!!!

Want another? Well her goes--

```
Program 100 Print "What is black and white"
110 PRINT "And red all over?"
            150 PRINT "An Embarressed zeabra!!!"
```

Run What is black and white
and red all over?
An embarassed zebra!!!

1. The print Statement tells the computer to print every character between the quotation marks on your screen.
2. The print statements on lines 120, 130 and 140 each print a blank line.
3. To change an existing line in program retype the line using the same number.

We'll "shape up" with the print statement next time- Jo Symington

eat a
LIVE TOAD
the first thing
in the
morning...

and nothing worse
will happen
to you the
rest of the day!

Tonny Brouwer

```
10 ! COMPUTER SCRATCH
20 ! BY TONNY BROUWER '88
30 CALL INIT :: FOR A=9640 TO 9515 :: READ B :: CALL LOAD (A,B):: NEXT A
40 DISPLAY ERASE ALL AT(5,5):"COMPUTER SCRATCHING": :TAB (6);"USE 'ENTER' !"
50 CALL LOAD(8192,36,244):: CALL LINK("S")
60 DATA 2,0,208,0,216,0,132,0,4,204,2,1,0,1,31,5,22,2,6, 1,22,4,5,129,2,129,4,0,19
70 DATA 250,192,129,2,66,0,15,2,98,0,192,6,194,216,2,132 ,0,192,129,10,66,216,2,132,0,16,235
```

CONTINUED FROM PAGE 3

also and allow the loading of a single line or multiples after a line with a certain string is found and be able to place these in the running program were needed. So send your cards and letters

to Myarc and let them know your fellings on this. If it is ever changed it would mean that an XB program could be as big as you have disk space without any other hardware.

One last note from know on any article submitted to the editor. That is not in my hands before (2) weeks before the next meeting will not make it in that months newsletter but in the following. Unless it is submitted on disk or is uploaded to the BBS. I just have to much going on to retype all this stuff. after all this is a computer club not a writing club thank you Roger.

```
   ATDTS
   1-419-385-7484
CONNECT

 PBBS v3.00 Copyright 07/12/89

                Welcome to

                TI-COMM

          (a PBBS Ver 3.01 System)

      Operated By New Horizons U.G.
                  and OH-MI-TI U.G.

      HORIZON RAMDISKS furnished by
            Bud Mills Services

  +-----------------------------------+
  !     300/1200/2400 BPS 88,N,1      !
  +-----------------------------------+

  Available 24 hours, except when the
        SysOp needs the system!

     SysOp      Don Turner
     Co-SysOp   Bud Mills
     Advisor    Curtis Finney

ENTER Name, ID number, or ##;password
: 9;******
No personal mail.

 PBBS MAIN MENU

B)ulletins          O)ther PBBS numbers
C)hat with SysOp    Q)uickread
E)nter a message    R)ead (with pause)
F)ile transfers     S)et screen width
G)oodbye            T)oggle clr screen
H)elp on prompts    U)ser search
I)nformation        V)iew mailbox
L)eave Feedback     W)ho called
M)essage area       Y)our status
N)ewsletter         !)quickoff
P)assword change    ?)menu

Your choice:  F

Current time: 20:11:28
Elapsed time: 1
Minutes left: 29

* File Area *

A) Abort
1) DL_FILES_1
2) DL_FILES_2
3) DSK1_DL

Your choice:  1

* FILE TRANSFERS *

A)bort to MAIN
C)atalog
D)ownload
H)elp
L)ist files
S)elect another drive
U)pload

 Searching files..please wait

 Activate TIBBS XMODEM file transfer!

 (c)1985 Paul Charlton CCCCC

 Successful file transfer!


A)bort C)ontinue E)dit L)ist P)review
S)ave :  Saving
```

KIDS PAGE

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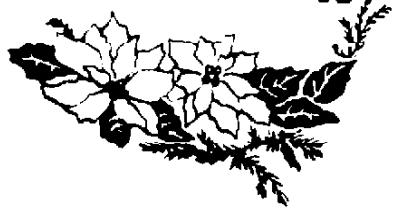

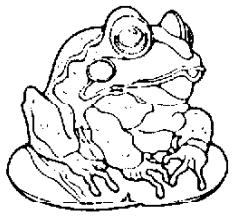

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```

THE PHILADELPHIA AREA TI-99/4A USERS' GROUP (JANUARY '89)

TIPS FROM THE TIGERCUB

#47

TIGERCUB SOFTWARE
156 Collingwood Ave.
Columbus, OH 43213

Distributed by Tigercub Software to TI-99/4A Users Groups for promotional purposes and in exchange for their newsletters. May be reprinted by non-profit users groups, with credit to Tigercub Software.

Over 120 original programs in Basic and Extended Basic, available on cassette or disk. NOW REDUCED TO JUST $1.00 EACH!, plus $1.50 per order for cassette or disk and PP&H. Minimum order of $10.00. Cassette programs will not be available after my present stock of blanks is exhausted. The Handy Dandy series, and Color Programming Tutor, are no longer available on cassette.
Descriptive catalogs, while they last, $1.00 which is deductable from your first order.

Tigercub Full Disk Collections, reduced to $5 postpaid. Each of these contains either 5 or 6 of my regular catalog programs, and the remaining disk space has been filled with some of the best public domain programs of the same category. I am NOT selling public domain programs - they are a free bonus!
TIGERCUB'S BEST, PROGRAMMING TUTOR, PROGRAMMER'S UTILITIES, BRAIN GAMES, BRAIN TEASERS, BRAIN BUSTERS!, MANEUVERING GAMES, ACTION REFLEX AND CONCENTRATION, TWO-PLAYER GAMES, KID'S GAMES, MORE GAMES, WORD GAMES, ELEMENTARY MATH, MIDDLE/HIGH SCHOOL MATH, VOCABULARY AND READING, MUSICAL EDUCATION, KALEIDOSCOPES AND DISPLAYS

NUTS & BOLTS DISKS
These are full disks of 100 or more utility subprograms in MERGE format, which you can merge into your own programs and use, almost like having another hundred CALLs available in Extended Basic. Each is accompanied by printed documentation giving an example of the use of each.
NUTS & BOLTS (No. 1) has 100 subprograms, a tutorial on using them, and 5 pp. documentation. NUTS & BOLTS No. 2 has 108 subprograms, 10 pp. of documentation. NUTS & BOLTS #3 has 140 subprograms and 11 pp. of documentation.
NOW JUST $15 EACH, POSTPAID.

TIPS FROM THE TIGERCUB
These are full disks which contain the programs and routines from the Tips from the Tigercub newsletters, in ready-to-run program format, plus text files of tips and instructions.
TIPS (Vol. 1) contains 50 original programs and files from Tips newsletters No. 1 through No. 14. TIPS VOL. 2 contains over 60 programs and files from Nos. 15 thru 24. TIPS VOL. 3 has another 62 from Nos. 25 through 32. TIPS VOL. 4 has 48 more from issues No. 33 through 41.
NOW JUST $10 EACH, POSTPAID.

```
**************************
*       NOW READY        *
* TIPS FROM TIGERCUB VOL.5 *
* Another 49 programs and  *
* files from issues No. 42 *
* through 50. Also $10 ppd *
**************************
```

TIGERCUB CARE DISKS #1,#2,#3 and #4. Full disks f text files (printer required).
No. 1 contains the Tips news letters #42 thru #45, etc. Nos. 2 and 3 have articles mostly on Extended Basic programming. No. 4 contains Tips newsletters Nos. 46-52. These were prepared for user group newsletter editors but are available to anyone else for $5 each postpaid.

If you bought my C11 disk, Kid's Games, please check line 100 of the Butterfly and Flowers program and, if necessary, change it to -
1000 CALL CLEAR :: CALL SCREEN(4).
If you bought my C12 disk, More Games, and have trouble loading Lost Plane and Andromedan Invasion, please go to line 1000 of the LOAD program and change 'TC-18' to 'TC-18 and 'TC-23' to 'TC-23. Or, return the disks to me and I will fix them.

Thanks to Ollie Hebert for this fix to the Gordian Knot in Tips #36. This will keep it from running off the edge and crashing in the automatic mode.

```
270 GOSUB 480 :: R=R-24*(R<1
)+24*(R)24):: C=C-28*(C<3)+2
8*(C)30):: CH=128-(D=1)-(D=3
):: CALL GCHAR(R,C,G):: IF G
<>32 THEN IF INT(2*RND+1)<>1
 THEN CH-G
```

The trouble with me is that, before I finish one program I've thought of another that I want to try writing - and so I don't take time time to test completed programs as well as I should. The Decompactor in Tips #35 was one that should have been tested more thoroughly. I think this version will work. It will break an IBasic program into single-statement lines to make it easier to modify. Then, John Dow's Compactor or a similar program will put it back together.

```
100 !DECOMPACTER V.1.1 by Ji
n Peterson fixed 12/87
110 DISPLAY AT(3,1)ERASE ALL
:"TIGERCUB DECOMPACTER V.1.1
": :" Program must first be
-": :"RESequenced to greater
 in-":"crements than the num
ber"
120 DISPLAY AT(9,1):"of stat
ements in any one".".line.":
:"SAVEd by":"  SAVE DSK(file
name),MERGE"
130 DISPLAY AT(16,1):"INPUT
FILENAME?":"DSK" :: ACCEPT A
T(17,4):IF$
140 DISPLAY AT(16,1)ERASE AL
L:"OUTPUT FILENAME?":"DSK" :
: ACCEPT AT(17,4):OF$
150 OPEN #1:"DSK"&IF$,INPUT
,VARIABLE 163 :: OPEN #2:"DS
K"&OF$,OUTPUT,VARIABLE 163
160 LINPUT #1:M$ :: LN=ASC(S
EG$(M$,1,1))*256+ASC(SEG$(M$
,2,1)):: IF LN>LN2 THEN 180
170 DISPLAY AT(12,1)ERASE AL
L BEEP:"ERROR! RESEQUENCE PR
OGRAM TO":"GREATER INCREMENT
S AND TRY":"AGAIN." :: CLOSE
 #1 :: CLOSE #2 :: STOP
180 LN2=LN
190 P=POS(M$,CHR$(130),3)::
IF P=0 THEN PRINT #2:M$ :: G
OTO 260
200 A$=SEG$(M$,1,P-1):: R=PO
S(A$,CHR$(132),3):: S=POS(A$
,CHR$(201),3)
210 IF R=0 THEN PRINT #2:A$&
CHR$(0):: GOTO 250
220 IF S=0 AND R<>0 THEN PRI
NT #2:M$ :: GOTO 260
230 IF S<>0 THEN IF S-R<3 TH
EN PRINT #2:A$&CHR$(0):: GOT
O 250
240 PRINT #2:M$ :: GOTO 260
250 LN=LN+1 :: LN2=LN :: GOS
UB 270 :: M$=LN$&SEG$(M$,P+1
,255):: GOTO 190
260 IF EOF(1)<>1 THEN 160 EL
SE CLOSE #1 :: CLOSE #2 :: D
ISPLAY AT(12,1)ERASE ALL:"En
ter NEW": :"Then Enter":"  M
```

THE PHILADELPHIA AREA TI-99/4A USERS' GROUP (JANUARY '89)

```
ERGE DSK"&OF$ :: END
270 LN$=CHR$(INT(LN/256))&CH
R$(LN-256*INT(LN/256)):: RET
URN
```

If you have my BXB routine from Tips #40 (corrected in Tips #42) or from my TIPS disk Vol. 4 or NUTS & BOLTS #3, or Genial Traveller Vol. 1 No. 6, here is a neat improvement that Barry Traver thought of. Key this in, run it to create a merge file on a disk. Then clear memory with NEW, merge in BXB, then MERGE DSK1.LINEZERO, and now save BXB again in merge format and it will CALL itself from line zero (and do something else that I'm not going to tell you about!

```
100 OPEN #1:"DSK1.LINEZERO",
VARIABLE 163,OUTPUT
110 M$=CHR$(0)&CHR$(0)&CHR$(
157)&CHR$(200)&CHR$(3)&"BXB"
&CHR$(130)&CHR$(157)&CHR$(20
0)&CHR$(4)&"CHAR"&CHR$(183)&
CHR$(200)&CHR$(2)&"30"
120 M$=M$&CHR$(179)&CHR$(199
)&CHR$(16)&"81C37EA58199663C
"&CHR$(182)&CHR$(0):: PRINT
#1:M$ :: PRINT #1:CHR$(255)&
CHR$(255)
```

And if you have merged in BXB, the edge character (ASCII 31) can be reidentified and colored (set 0) to give the screen an ornamental border.

```
100 CALL CHAR(31,"0"):: CALL
 CLEAR :: FOR J=1 TO 24 :: P
RINT :: NEXT J :: CALL CHAR(
31,"18244299999422418"):: CAL
L COLOR(0,5,16)
```

Here is an improved version of the CATWRITER program to create the Tigercub QUICKLOADER, which is intended for disks of programs which you have filled and do not plan to change. It will read the directory, display each filename, and ask you for the complete program name of each one. Then it prepares a program which displays one or more menu screens of complete program names, and auto-loads whichever one you select.

First, key in this part and save it to disk by SAVE DSK1.CAT1,MERGE. If you want, you can change the screen and character colors in line 10. Don't change the line numbers!

```
10 CALL CLEAR :: DIM M$(127)
:: CALL SCREEN(5):: FOR S=0
TO 14 :: CALL COLOR(S,16,1):
: NEXT S :: CALL PEEK(8198,A
):: IF A<>170 THEN CALL INIT
11 REM  (leave this in!)
12 ON WARNING NEXT :: GOSUB
21
13 X=X+1 :: READ M$(X):: IF
M$(X)<>"END" THEN 13
14 R=3 :: FOR J=1 TO X-1 ::
READ X$ :: DISPLAY AT(R,1):S
TR$(J);TAB(4);X$ :: R=R+1 ::
 IF R<23 THEN 17
15 DISPLAY AT(24,1):"Choice?
 or 0 to continue 0" :: ACCE
PT AT(24,26)VALIDATE(DIGIT)S
IZE(-3):N :: IF N>X-1 THEN 1
5
16 IF N<>0 THEN 10000 :: R=3
17 NEXT J
18 DISPLAY AT(24,1):"Choice?
" :: ACCEPT AT(24,9)VALIDATE
(DIGIT):N :: IF N=0 OR N>X-1
 THEN 18
19 CALL CHARSET :: CALL CLEA
R :: CALL SCREEN(8):: CALL P
EEK(-31952,A,B):: CALL PEEK(
A*256+B-65534,A,B):: C=A*256
+B-65534 :: A$="DSK1."&M$(N)
:: CALL LOAD(C,LEN(A$))
20 FOR J=1 TO LEN(A$):: CALL
 LOAD(C+J,ASC(SEG$(A$,J,1)))
:: NEXT J :: CALL LOAD(C+J,0
):: GOTO 10000
21 CALL LOAD(8196,63,248)
22 CALL LOAD(16376,67,85,82,
83,79,82,48,8)
23 CALL LOAD(12288,129,195,1
26,165,129,153,102,60)
24 CALL LOAD(12296,2,0,3,240
,2,1,48,0,2,2,0,8,4,32,32,36
,4,91)
25 CALL LINK("CURSOR"):: RET
URN
10000 RUN "DSK1.1234567890"
```

Next, key in this little routine and run it to create a file called CAT2. If you added or deleted any lines in the CAT1 file, change the J-loop accordingly.

```
100 OPEN #1:"DSK1.CAT1",VARI
ABLE 163,INPUT
110 OPEN #2:"DSK1.CAT2",VARI
ABLE 163,OUTPUT
120 FOR J=10 TO 26 :: LINPUT
 #1:M$ :: PRINT #2:CHR$(0)&C
HR$(J)&CHR$(156)&CHR$(253)&C
HR$(200)&CHR$(1)&"2"&CHR$(18
1)&CHR$(199)&CHR$(LEN(M$))&M
$&CHR$(0):: NEXT J
130 PRINT #2:CHR$(255)&CHR$(
255):: CLOSE #1 :: CLOSE #2
```

Finally, key in CATWRITER. Leave the line numbers as they are, we need that space after line 5.

Then MERGE in DSK1.CAT2 to combine the two, and SAVE.

```
1 CALL CLEAR :: CALL TITLE(1
6,"CATWRITER"):: CALL CHAR(1
24,"3C4299A1A199423C"):: DIS
PLAY AT(2,10):"Version 1.3":
:TAB(8);"; Tigercub Softwar
e"
2 DISPLAY AT(15,1):"For free
":"distribution":"but no pri
ce or":"copying fee":"to be
charged." :: FOR D=1 TO 500
:: NEXT D :: CALL DELSPRITE(
ALL)
3 DISPLAY AT(2,3)ERASE ALL:"
TIGERCUB CATWRITER V.1.3":::
" Will read a disk directory
,":"request an actual progra
m":"name for each program-ty
pe"
4 DISPLAY AT(7,1):"filename,
 and create a merg-":"able Q
uickloader which dis-":"play
s full program names and":"r
uns a selected program."
5 OPEN #2:"DSK1.CATMERGE",VA
RIABLE 163,OUTPUT
100 OPEN #1:"DSK1.",INPUT ,R
ELATIVE,INTERNAL :: INPUT #1
:N$,A,J,K :: LN=1000 :: FN=1
100
110 DISPLAY AT(12,1):"Disk n
ame?":::N$ :: ACCEPT AT(14,1
)SIZE(-28):N$ :: LX$=STR$(14
-LEN(N$)/2):: LXLEN=LEN(LX$)
120 PR$=CHR$(0)&CHR$(11)&CHR
$(162)&CHR$(240)&CHR$(183)&C
HR$(200)&CHR$(1)&"1"&CHR$(17
9)&CHR$(200)&CHR$(LXLEN)&LX$
130 PR$=PR$&CHR$(182)&CHR$(1
81)&CHR$(199)&CHR$(LEN(N$))&
N$&CHR$(0):: PRINT #2:PR$
140 X=X+1 :: INPUT #1:P$,A,J
,B :: IF LEN(P$)=0 THEN 180
:: IF ABS(A)=5 OR ABS(A)=4 A
ND B=254 THEN 150 ELSE X=X-1
 :: GOTO 140
150 DISPLAY AT(12,1):P$;"
 PROGRAM NAME?" :: ACCEPT AT
(14,1)SIZE(25):F$
160 PRINT #2:CHR$(INT(FN/256
))&CHR$(FN-256*INT(FN/256))&
CHR$(147)&CHR$(200)&CHR$(LEN
(F$))&F$&CHR$(0):: FN=FN+1
170 M$=M$&CHR$(200)&CHR$(LEN
(P$))&P$&CHR$(179):: IF X<11
 THEN 140
180 IF M$="" THEN 200
190 PRINT #2:CHR$(INT(LN/256
))&CHR$(LN-256*INT(LN/256))&
CHR$(147)&SEG$(M$,1,LEN(M$)-
1)&CHR$(0):: LN=LN+1 :: M$="
" :: X=0 :: IF LEN(P$)<>0 TH
EN 140
200 PRINT #2:CHR$(INT(LN/256
))&CHR$(LN-256*INT(LN/256))&
CHR$(147)&CHR$(200)&CHR$(3)&
"END"&CHR$(0)
210 PRINT #2:CHR$(255)&CHR$(
255):: CLOSE #1 :: CLOSE #2
220 DISPLAY AT(8,1)ERASE ALL
:"Enter -":::"  NEW":::"  ME
RGE DSK1.CATMERGE":::"  DELE
TE ""DSK1.CATMERGE""":::"  S
AVE DSK1.LOAD"
230 SUB TITLE(S,T$)
240 CALL SCREEN(S):: L=LEN(T
$):: CALL MAGNIFY(2)
250 FOR J=1 TO L :: CALL SPR
ITE(#J,ASC(SEG$(T$,J,1)),J+1
-(J+1-S)+(J+1-S+13)+(J>14)*1
3,J*(170/L),10+J*(200/L)):::
NEXT J
```

```
260 SUBEND
```

Mike Stanfill and Ed Machonis and others have been publishing some neat little "tinygram" programs which can be listed on a single screen, so here is my contribution. It's not only a one-screener, it's a one-liner!

```
1 RANDOMIZE :: PRINT : : : : : :: A=INT(RND*7):: B=INT(RND*9+1):: FOR Y=1 TO 5 :: Y=A*Y^2-B*Y+B :: PRINT Y;:: NEXT Y :: Y=A*Y^2-B*Y+B :: PRINT : : :: INPUT "GUESS NEXT NUMBER":N :: IF N=Y THEN PRINT :"RIGHT" :: GOTO 1 ELSE PRINT :"CORRECT IS":Y :: GOTO 1
```

MEMORY FULL! - Jim Peterson

(*)(*)(*)(*)(*)()(*)(*)

SPRITES, PART 1
by Jim Peterson

The sprites of TI Extended Basic are mostly used in fast-action arcade-type games, but they have other uses as well.

Up to 28 sprites can be placed on the screen at one time, but there is one very serious limitation - if more than 4 of them are in a line horizontally, only the 4 lowest-numbered ones will be visible. That is why, if you have numerous sprites moving about the screen, one of them will occasionally disappear and reappear, or a horizontal slice of a magnified sprite will become transparent.

A sprite is placed on the screen by the statement

```
CALL SPRITE(#N,ASC,COL,
DOTROW,DOTCOL)
```

N is the sprite number, between 1 and 28, and it must be preceded by the # sign. ASC is the ASCII code of the character that you wish the sprite to have. It must be between 32 and 143 - the ASCII characters 33 through 126 are the keyboard characters, the others will be blank unless you redefine them. COL is the color you wish the sprite to have, using the same color codes, 1 to 16, as are used for CALL SCREEN or CALL COLOR.

DOTROW and DOTCOLUMN are the dot row and dot column at which you wish the sprite to appear. You know that the monitor screen consists of 24 rows and 32 columns. Using HCHAR or VCHAR, you can place a character on any one of those 768 spaces (PRINT and DISPLAY start at column 3 of the graphics screen). Each of those spaces consists of a grid of 8 x 8 dots, totaling 64. By turning various of those dots off (blank) or on (colored), a character is displayed on the screen. Therefore the screen is 8 x 32 or 256 dotcolumns wide and the visible screen is 8 X 24 or 192 dotrows deep. Actually dotrow can be anything up to 256; dotrows 193 through 256 are hidden below the bottom of the screen, and sprites can be hidden there.

The upper left hand corner of your sprite will be at whatever dotrow and dotcolumn you specify.

To convert an graphics screen (HCHAR) position into dotrow and dotcolumn, use DOTROW=ROW*8-7 and DOTCOL=COL*8-7; to convert a PRINT/DISPLAY position, you must use DOTCOL=(COL+2)*8-7. So, CALL SPRITE(#1,42,16,89,121) will place sprite #1, in the form of the asterisk (ASCII 42), colored white (16) in the middle of the screen. If you want, you can give it motion when you create it, by giving it a row-velocity and a column-velocity. These velocities can be from -128 to 127. A positive row velocity moves the sprite down, negative moves it up; a positive column velocity moves it right, negative moves it left. Velocity 0 is a standstill, and speed increases from 1 upwards and from -1 downwards.

So, CALL SPRITE(#1, 42 ,16, 89, 121, 5, 5) will place that white asterisk in the middle of the screen and start it moving slowly at a 45 degree angle downward to right (since the values 5 and 5 are positive and equal). It will continue moving at that direction and speed until you tell it to do otherwise, all by itself and without program control. When it reaches the right edge of the screen, it will "wrap around" and appear at the left. When it reaches the bottom, it will disappear briefly while it passes through those hidden dotrows, and "wrap around" to appear at the top.

If you want to change the pattern of the sprite, there are three ways to do so. You can CALL SPRITE again with the same sprite number but a different ASCII character - but if the existing sprite is not in the position of the dotrow and dotcolumn you specify, it will disappear and reappear in the new position. Or you can reidentify a character by CALL CHAR, and any sprite having that character will change accordingly, without affecting its color, position or movement. Or you can use CALL PATTERN(#N,ASC) to change the pattern of sprite #N to the pattern of the specified ASCII character, without affecting color, position or motion.

There are also two ways to change the color of a sprite. CALL SPRITE with the same sprite number and ASCII but a different color code will recreate the sprite with the new color, but in whatever position is specified. CALL COLOR(#N,COLOR) will recolor sprite #N to the specified color code without affecting its pattern, position or motion.

If you want to change the position of a sprite, CALL LOCATE(#N,DOTROW,DOTCOL) will make it disappear at its old location and appear at the new location. The pattern and color will be unchanged, and if it was in motion the same motion will continue from the new position.

To change the motion of a moving sprite, or to start a stationary sprite into motion or vice versa, use CALL MOTION(#N,RV,CV) - RV and CV being the same row velocity and column velocity optionally used in CALL SPRITE. CALL MAGNIFY will change the size of your sprite. You do not specify

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a sprite number with this CALL, because it affects all sprites that are on the screen or are subsequently placed on the screen. CALL MAGNIFY(2) enlarges the sprite 4 times so that it fills 4 of the graphic screen spaces, 256 dot spaces. CALL MAGNIFY(3) causes the sprite to consist of 4 characters, occupying 4 graphic screen positions. The upper left of these characters will be the ASCII specified in the CALL SPRITE or CALL PATTERN, provided that the ASCII is evenly divisible by 4 - otherwise, it will be the next smaller ASCII evenly divisible by 4. The next higher ASCII will be in lower left, the next in upper right, the next in lower right. In other words, if you use CALL MAGNIFY(3) and CALL SPRITE(#1,64,2,10,10) you will get a sprite looking like this - @B
AC

- and if you CALL SPRITE(#1,65,2,10,10) you will get exactly the same thing, because the computer will substitute the next lower number, 64, which is evenly divisible by 4.

Naturally, you will not have much use for sprites consisting of four characters, unless you redefine them into a single pattern, and in that case you must remember that they will appear in that upper left/lower left/upper right/lower right sequence. Fortunately, there are sprite editor programs to take care of this for you.

CALL MAGNIFY(4) will enlarge that 4-character sprite so that it fills 16 graphic screen positions. Note that magnification options 2 and 4 actually enlarge each dot to fill 4 dot positions, so that the sprites have a more angular, blocky appearance.

And finally, CALL MAGNIFY(1) will return magnified sprites to their normal single-space size.

Programming with sprite motion is unlike any other programming, because you do not control the program execution step-by-step. When you set a sprite in motion, it continues in motion while the program goes on to do whatever it is supposed to do next. When you want to control the sprite again, you must catch up with it and find out where it is. There are three ways to do this.

CALL COINC(ALL,C) will give a value of -1 to C if any two sprites on the screen are overlapping, even slightly, or 0 if they are not. CALL COINC(#1,#2,TOL,C) will give C a value of -1 if the upper left left hand corners of sprites #1 and #2 are within TOL dotrows and dotcolumns of each other. TOL may be any number you want, depending on whether you want to catch them only when they are right on top of each other, or just getting close. If not within tolerance, C will equal 0.

CALL COINC(#1, DOTROW, DOTROW, DOTCOL, TOL, C) will give C a value of -1 if the upper left corner of sprite #1 is within TOL dotrows and dotcolumns of the specified DOTROW and DOTCOL.

CALL COINC is not foolproof. If you give the sprites a fast motion, a coincidence may not be caught. And when you alternate your CALL COINC with other statements such as CALL JOYST, a coincidence will be missed if the program is executing some other statement at the time. CALL POSITION(#N,DOTROW,DOTCOL) will give the dotrow and dotcolumn that the upper left corner of the sprite is occupying at the instant it is called. This one again is not foolproof because the sprite will have moved from that position before another statement can be executed to do anything with the information.

CALL DISTANCE(#1,#2,D) or CALL DISTANCE(#1,DOTROW,DOTCOL,D) will give to D a value depending on the distance between the two sprites, or between the sprite and the location. The value, as I understand it, is the square root of the total of the squares of the difference between the dotrows added to the squares of the differences between the dot columns. I'm not sure how useful all that is, and I have rarely seen this CALL used by programmers.

Finally CALL DELSPRITE(#N) will delete sprite #1 from the screen and CALL DELSPRITE(ALL) will delete them all.

Those are just the basics of sprite programming. What can be done depends solely on your ingenuity.