Milwaukee

August

99 HOCUS

AUGUST - 1986

MILWAUKEE AREA USER GROUP
4122 GLENWAY WAUWATOSA WI 53222

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Newsletter..G.Hitz 5350133
S.I.G.....Schroeder/Walden/Hitz

Next Group Meeting
September 20, 1986 <--------<
Wauwatosa S&L 7500 W. State
1:00-4:00
Next SIG Meeting
September 01, 1986
National S&L 3670 S. Moorland
7:00-10:00
Membership Dues
Individual - $10
Family - $15

HAPPY BIRTHDAY

The Milwaukee Area User Group just celebrated its 5th birthday. Although not as numerous as in the boom days of early 1985, we are still bouncing along in robust fashion with members more knowledgeable and capable computer-wize. So let's all stick with it, as there are many more good years ahead of us.

NEW SECRETARY

Let's all welcome Beth Kling as our secretary filling the void of George Kasica's departure The generous volunteering of service by loyal members such as Beth, is what keeps our group going strong through the years.

NEWSLETTER EDITOR

In keeping with the above topic, we also need volunteers for newsletter editor and several contributing writers. The work's not all that difficult and you can be performing your part in keeping your group vibrant and booming.

WISCONSIN TI FAIRE

Plans are moving right along for the big T.I. Faire being planned for Milwaukee on November 2nd 1986. It's being planned to coincide with Chicago's big annual Faire on Saturday Nov. 1 and many volunteers are needed to make this a success and might prove a bonanza in bringing many TI owners into our group.

BEWARE MICROCOMPUTERS CORPORATION

There's a company called Microcomputers Corp. in New York that recently sent out brochures advertising 2 pages of old TI software et al, at bargain prices. We placed an order for 20 modules and a short time ago received a small package from them. Seems they only really had 2 of the modules they had advertised. So far they haven't returned any money nor explained what they intend to do about it. Sounds like a big rip-off. Better stay away from them.

TI MIL

It seems our local TI BBS is operating under a double standard. Some special favored few may leave PRIVATE messages as often as desired and IT'S NONE OF ANYONE ELSE'S BUSINESS, but if any of the common herd DARE to leave PRIVATE messages, the sysop comes down hard on them, suspending privileges left and right. Since they've gone PAY, they've eliminated most of the users and with their announced plan of adding other computers (remember HCM?) they seem to have lost interest in us, and judging by the messages, many of the users seem to be losing interest in them also.

I hope everyone remembers that next month's meeting date will be the THIRD Saturday !!!

>>>> SEPTEMBER 20, 1986 <<<<

SPIRAL

From the MUSIC CITY 99ers Users Group newsletter UPTIME come the following:

Here is a short listing that can be saved in MERGE format for use in your title screens. When run, it gives the appearance od a theatre marquee.

In the listing, R1 is the left side of the box, R2 is the right side, C1 is the top, and C2 is the bottom. The "Z" FOR-NEXT loop is the number of orbits the spiral makes. By changing the values of R1, R2, C1, C2, and the "Z" loop, you can place the spiral anywhere on the screen, make it any size, and cause it to orbit as many times as you like.
(Ed. note: be careful when you type in lines 170 and 180. line number 180 the first time is part of line 170, the second time it is line 180.

```
100 ! ********SPIRAL*******
      * TI Extended Basic *
      *   T. E. Cushing   *
      *   Nashville, TN   *
      *********7/85*********
110 CALL CLEAR :: CALL SCREE
N(16):: CH=42
120 R1,C1=1 :: R2=24 :: C2=3
2 :: FOR Z=1 TO 12
130 FOR A=C1 TO C2 :: CALL H
CHAR(R1,A,CH):: NEXT A :: R1
=R1+1 :: FOR A=R1 TO R2 :: C
ALL VCHAR(A,C2,CH):: NEXT A
:: C2=C2-1
140 CALL KEY(0,K,S):: IF S<>
0 THEN 200
150 FOR A=C2 TO C1 STEP -1 :
: CALL HCHAR(R2,A,CH):: NEXT
 A :: R2=R2-1 :: FOR A=R2 TO
 R1 STEP -1 :: CALL VCHAR(A,
C1,CH):: NEXT A :: C1=C1+1
160 CALL KEY(0,K,S):: IF S<>
0 THEN 200
170 NEXT Z :: IF CH=42 THEN
180 ELSE IF CH=32 THEN 190
180 CH=32 :: GOTO 120
190 CH=42 :: GOTO 120
200 CALL CLEAR :: END
```

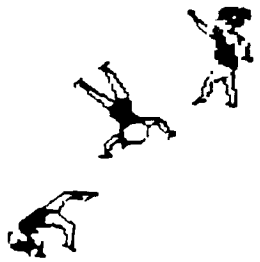
To see what it looks like on a title scren, insert the following line:

```
>112 DISPLAY AT(11,12):"THEAT
 RE":TAB(12);"MARQUEE" :: DIS
 PLAY AT(23,3):"HOLD ANY KEY
 TO CONTINUE"
```

Now change line 120 to read:

```
>120 R1=8 :: R2=15 :: C1=11 :
 : C2=23 :: FOR Z=1 TO 2
```

The following program is an example of sprite animation using data statements and a loop to control the motion of the figures. The program is written in Extended Basic and originally came from the Home Computer Magazine. I rewrote the program to display the various stages of the figure in motion and added more figures and a roadway for them to cartwheel on.



```
100 ! ********************
110 !  *  SPRITE DEMO 2  *
120 ! ********************
130 ! *99'ER VER 1.5.1XB*
140 ! * DEMO OF SPRITE  *
150 ! * ANIMATION USING *
160 ! * DATA STATEMENTS *
170 ! *MODIFIED BY B PARR
180 ! *  CC99'ERS 2/85  *
190 ! ********************
200 CALL CLEAR
210 CALL CHAR(60,"FFFF000FF0
0F0FFF"):: CALL CHAR(65,"FFF
FFFFFFFFFFFF"):: CALL COLOR
(5,3,3):: CALL COLOR(4,2,11)
220 CALL CHAR(55,"8046042528
700210"):: CALL COLOR(3,16,1
5)
230 DIM I$(17),C$(17)
240 GOSUB 360 !CASTER
250 FOR I=0 TO N :: CALL CHA
R(136-4*I,C$(I))
260 NEXT I
270 CALL SPRITE(#5,136,2,80,
10,#6,132,2,80,40,#7,128,2,8
0,70,#8,124,2,80,100,#9,120,
2,120,10)
280 CALL SPRITE(#10,116,2,12
0,40,#11,112,2,120,70,#12,10
8,2,120,100,#13,108,2,160,10
,#14,104,2,160,40)
290 CALL SPRITE(#15,100,2,16
0,70,#16,96,2,160,100)
300 CALL CLEAR
310 CALL HCHAR(9,1,60,32)::
CALL HCHAR(10,1,65,480):: CA
LL HCHAR(7,1,55,64)
320 CALL SPRITE(#1,136,2,34,
30,0,-6,#2,136,7,34,60,0,-6,
#3,136,13,30,90,0,-8,#4,136,
5,26,120,0,-20)
330 CALL MAGNIFY(4)
340 FOR I=0 TO N :: CALL PAT
TERN(#1,136-4*I,#2,136-4*I,#
3,136-4*I,#4,136-4*I):: GOSU
B 410 :: NEXT I :: GOTO 340
350 END
360 REM SUBROUTINE CASTER
370 READ NAM$,N
380 FOR I=0 TO N
390 READ I$(I),C$(I):: NEXT
I
400 RETURN
410 REM SUBROUTINE DELAY
420 FOR J=0 TO 6 :: NEXT J
430 RETURN
440 DATA MAN6N81,12
450 DATA MAN#1,000609090600
F0F1E060F0F190804080000000000
0000000000205080000000
460 DATA MAN#2,0304040307072
F1303030706060207000080800008
090D0A0808080808080808000
470 DATA MAN#2.5,00070903060
F0F172F0606060F0908180000000
0000000000000000000804080
480 DATA MAN#3,00070903060F0
F172F0606060F090818000000000
0000000000000000804080
490 DATA MAN#4,000018241C0C1
C2C4E160607060202060000000000
0000000040A00000000000
500 DATA MAN#5,0000000000000
0387FDE96624281000100000000
0002050800000000000008000
510 DATA MAN#6,00061424140C0
C0C0C1C1E1E1E1D0C10000000000
0000000000000000000808080
520 DATA MAN#6.5,00000020201
84C7C0C0C0E0606090E040000000
0000000000000000000008080
530 DATA MAN#7,0000000000000
04080402F1E376640C0000000000
0000000408000000804020
540 DATA MAN#8,000000110A060
3010101030306 2A1206000000844
850A0C0C080800000000000
550 DATA MAN#1,000609090600
F0F1E060F0F190804080000000000
0000000000205080000000
560 DATA MAN#3,00070903060F0
F172F0606060F090818000000000
0000000000000000804080
570 DATA MAN#2.5,00070903060
F0F172F0606060F090818000000000
0000000000000000804080
```

```
...TWELVE
SCR #35
 0 ( TWELVE #1 FORTH -TEXT -GRAPH -GRAPH1 )
 1 ( WESLEY R RICHARDSON  JUNE 1986 )
 2 ( BLUEGRASS 99 COMPUTER SOCIETY INC )
 3 BASE->R HEX : IT ; : GXY GOTOXY ;
 4 : INST 9 6 GXY ." T W E L V E" CR CR
 5  ." THERE ARE TWELVE BLOCKS" CR
 6  ." MARKED A THROUGH L.  ELEVEN" CR
 7  ." OF THESE HAVE THE SAME" CR
 8  ." WEIGHT.  ONE BLOCK IS EITHER" CR
 9  ." HEAVIER OR LIGHTER THAN THE" CR
10  ." OTHERS.  THE TASK IS TO USE" CR
11  ." THREE BALANCE WEIGHINGS TO" CR
12  ." DETERMINE THE ODD ONE, AND" CR
13  ." IF IT IS HEAVY OR LIGHT." CR
14  ." THE ARROW OVER THE BALANCE" CR
15  ." INDICATES THE HEAVIER SIDE." CR -->

SCR #36
 0 ( TWELVE #2 )
 1  CR ." PRESS ANY KEY " KEY DROP ;
 2 : VBL VARIABLE ;
 3 0 VBL TRS 0 VBL COR 0 VBL ODD 0 VBL BAL
 4 0 VBL WGT 0 VBL SID 0 VBL ALP 0 VBL ANS
 5 0 VBL HL
 6 : INIT GRAPHICS RANDOMIZE
 7  FFFF 0000 0000 0000 58 CHAR [ 91 [ )
 8  FFFF 183C 66C3 8100 5C CHAR \ 92 \ )
 9  1038 7CFE 1010 1010 5D CHAR ] 93 ] )
10  F0E0 E090 0804 0201 5E CHAR ^ 94 ^ )
11  0F07 0709 1020 4080 5F CHAR _ 95 _ ) ;
12 DECIMAL
13 : PICK 24 RND 1+ DUP 12 > IF 25 - ENDIF
14  ODD ! CLS  ;
15 -->

SCR #37
 0 ( TWELVE #3 )
 1 : AL GXY ." A B C D E F G H I J K L" ;
 2 : BEAM 2 BAL @ 4 * 3 + 25 91 HCHAR ;
 3 : CTR 14 BAL @ 4 * 3 +  1 92 HCHAR ;
 4 : PLCE ALP @ 2 * SID @ 14 * + BAL @ 4
 5   * 2 + ;
 6 : ACPT PLCE GXY KEY ;
 7 : AVAIL DUP 65 - 2 * 3 + 1 GCHAR DUP 32
 8   = IF DROP 0 ELSE ANS ! DROP 1 ENDIF ;
 9 : CHK DUP 13 = IF DROP 1 ELSE DUP 77 <
10   IF DUP 64 > IF AVAIL ENDIF ENDIF
11   ENDIF 1 = ;
12 : ADEL PLCE 1 ANS @ HCHAR ANS @ 65 - 2
13   * 3 + 1 1 32 HCHAR ;
14 -->
15

SCR #38
 0 ( TWELVE #4 )
 1 : CWGT WGT @ 2 - SID @ 4 * + WGT ! ANS
 2   @ 64 - ODD @ ABS = IF WGT @ ODD @ SID
 3   @ 2 * 1 - * ODD @ ABS / + WGT ! ENDIF ;
 4 : LALP 7 1 DO I ALP ! 13 ANS ! BEGIN
 5   ACPT CHK UNTIL ANS @ 13 = 0= IF ADEL
 6   CWGT ELSE LEAVE ENDIF LOOP ;
 7 : LSID 2 0 DO I SID ! LALP LOOP ;
 8 : APOS 14 BAL @ 4 * 2 + 1 ;
 9 : ARRW WGT @ 0 = IF APOS 93 HCHAR ENDIF
10   WGT @ 0 < IF APOS 94 HCHAR ENDIF WGT
11   @ 0 > IF APOS 95 HCHAR ENDIF ;
12 : DBAL 3 1 AL BEAM CTR LSID ARRW ;
13 : RESP 2 17 GXY ." ODD BLOCK (A-L) ?"
14   KEY ;
15 -->

SCR #39
 0 ( TWELVE #5 )
 1 : CHK2 DUP 77 < IF DUP 64 > IF ANS ! 1
 2   ENDIF ENDIF 1 = ;
 3 : ANSWR BEGIN RESP CHK2 UNTIL ;
 4 : RHL 2 18 GXY ." HEAVY OR LIGHT (H/L)?"
 5   KEY DUP 72 = IF HL ! 1 ENDIF DUP 76 =
 6   IF HL ! 1 ENDIF 1 = ;
 7 : AHL BEGIN RHL UNTIL ;
 8 : RIGHT 2 19 GXY ." *** CORRECT !! ***"
 9   1 COR +! ;
10 : WRONG 2 19 GXY ." *** SORRY ***" ;
11 : CHL HL @ 74 - ODD @ * 0 < IF RIGHT
12   ELSE WRONG ENDIF ;
13 -->
14
15

SCR #40
 0 ( TWELVE #6 )
 1 : CANS ANS @ ODD @ ABS 64 + = IF CHL
 2   ELSE WRONG ENDIF 1 TRS +! 2 21 GXY
 3   ." CORRECT=" COR @ . ." TRIES="
 4   TRS @ . ;
 5 : LBAL 4 1 DO I BAL ! 0 WGT ! DBAL LOOP
 6   ANSWR AHL CANS ;
 7 : DONE ." type TWELVE to restart "
 8   CR CR ." type FORGET IT to end" ;
 9 : FINI 3 23 GXY ." PLAY AGAIN (Y/N) ?"
10   KEY 89 = 0= IF TEXT DONE QUIT ENDIF ;
11 : TWELVE CLS INST INIT BEGIN PICK LBAL
12   FINI AGAIN ;
13 R->BASE
14 TWELVE
15
```

TIPS FROM THE TIGERCUB

$3.5

TIGERCUB SOFTWARE
156 Collingwood Ave.
Columbus, OH 43213

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For descriptions of these send a dollar for my catalog!

The April Micropendium had a rather slow routine to count the number of words in a D/V text file. I think the following will be much faster. It ignores any lines beginning with a period (TI-Writer formatter commands), otherwise counts each cluster of characters followed by a space, plus the last cluster on the line.

```
100 !WORDCOUNT by Jim Peterson
110 DISPLAY AT(12,1)ERASE ALL:"INPUT FILENAME? DSK" :: ACCEPT AT(12,20):F$ :: OPEN #1:"DSK"&F$,INPUT
120 A=1 :: LINPUT #1:M$ :: IF ASC(M$)=46 THEN 130
125 X=POS(M$," ",A):: IF X=0 THEN 130 :: IF X=A THEN A=X+1 :: GOTO 125 ELSE F=1 :: C=C+1 :: A=X+1 :: GOTO 125
130 C=C+F :: F=0 :: IF EOF(1)<>1 THEN 110 :: CLOSE #1 :: DISPLAY AT(12,1)ERASE ALL:"APPROXIMATELY "&STR$(C)&" WORDS"
```

Have you tried those black write-protect tabs, made of a material similar to electrical tape? They do not become dog-eared from bumping against the drive slot, and do not leave the disk sticky when you remove them.

```
100 !TIGERCUB GRAPHPRINT by Jim Peterson
110 !Will output to printer a line graph of 31 items of data, as for instance the temperature for each day of a month
120 !Values must be positive integers within a range of 75 from minimum to maximum
130 M$=RPT$("!_",65):: DIM T$(31),D$(75):: MN=10000
140 DISPLAY AT(12,1)ERASE ALL:"Input data - maximum 31": "items. Enter 0 to finish"
150 FOR X=1 TO 31 :: DISPLAY AT(14,1):X;TAB(4);CHR$(1):: ACCEPT AT(14,4)VALIDATE(DIGIT)SIZE(-5)BEEP:T$(X):: IF T$(X)=CHR$(1)THEN X=X-1 :: GO TO 170
160 T=VAL(T$(X)):: MX=MAX(MX,T):: MN=MIN(MN,T):: NEXT X
170 RN=MX-MN :: IF RN>75 THEN PRINT "EXCEEDS MAXIMUM RANGE OF 75" :: STOP
180 IF MX>75 THEN AD=MX-75
190 OPEN #1:"PIO",VARIABLE 132 :: PRINT #1:CHR$(15);CHR$(27);CHR$(51);CHR$(12):: PRINT #1:RPT$("_",132)
200 DISPLAY AT(12,1)ERASE ALL:"Wait, please...": :"..... .this takes time"
210 LM=LEN(STR$(MX)):: FOR J=1 TO 75 :: J$=STR$(76+AD-J)
220 IF J>66+AD THEN J$=J$&" "
230 IF J/2=INT(J/2)THEN D$(J)=RPT$(" ",LM)&SEG$(M$,1,132-LM)ELSE D$(J)=J$&SEG$(M$,1,132-LM)
240 NEXT J :: PRINT #1:RPT$(" ",LM)&SEG$(M$,1,132-LM)
250 J=1 :: T=VAL(T$(J))-AD :: T=76-T :: D$(T)=SEG$(D$(T),1,J*4+4)&CHR$(239)&SEG$(D$(T),J*4+6,255):: J=J+1
260 T2=T :: T=VAL(T$(J))-AD :: T=76-T :: FOR N=T2 TO T STEP (T2>T)+ABS(T>=T2):: D$(N)=SEG$(D$(N),1,J*4+2)&CHR$(253+(T<T2))&SEG$(D$(N),J*4+4,255):: NEXT N
270 J=J+1 :: D$(T)=SEG$(D$(T),1,J*4)&CHR$(239)&SEG$(D$(T),J*4+2,255):: IF J<=X THEN 260
280 FOR J=1 TO 75 :: PRINT #1:D$(J):: NEXT J :: PRINT #1
290 T=8 :: FOR J=1 TO 31 :: PRINT #1;TAB(T);STR$(J);:: T=T+4 :: NEXT J
```

When you are analyzing an Extended Basic program, or modifying it, it is often easier to work with single-statement lines. This program will break all multi-statement lines into single-statement lines, except when they are followed by IF or ELSE. When you are finished modifying, a Compactor or Smash program can be used to compact it again.

```
100 !DECOMPACTER by Jim Peterson
110 DISPLAY AT(3,5)ERASE ALL:"TIGERCUB DECOMPACTER": :" Program must first be -": :" RES 100,100": :"SAVE DSK(filename),MERGE"
120 DISPLAY AT(12,1):"INPUT FILENAME?":"DSK" :: ACCEPT AT(13,4):IF$
130 DISPLAY AT(12,1)ERASE ALL:"OUTPUT FILENAME?":"DSK" :: ACCEPT AT(13,4):OF$
140 OPEN #1:"DSK"&IF$,INPUT,VARIABLE 163 :: OPEN #2:"DSK"&OF$,OUTPUT,VARIABLE 163 :: LN=100
150 LINPUT #1:M$ :: P=POS(M$,CHR$(130),3):: IF P=0 THEN PRINT #2:M$ :: GOTO 270
160 A$=SEG$(M$,1,P-1):: IF POS(A$,CHR$(129),1)<>0 OR POS(A$,CHR$(132),1)<>0 THEN PRI
```

```
NT #2:M$ :: GOTO 27$
17$ PRINT #2:A$&CHR$(Ø)
18$ AN=LN+1 :: GOSUB 28$
19$ M$=SEG$(M$,P+1,255)
2Ø$ P=POS(M$,CHR$(13Ø),1)
21$ IF P=Ø THEN PRINT #2:LN$
&M$ :: GOTO 27$
22$ A$=SEG$(M$,1,P-1)
23$ IF POS(A$,CHR$(129),1)<>
Ø OR POS(A$,CHR$(132),1)<>Ø
THEN PRINT #2:LN$&M$ :: GOTO
 27$
24$ PRINT #2:LN$&A$&CHR$(Ø)
25$ AN=AN+1 :: GOSUB 28$
26$ GOTO 19$
27$ LN=LN+1ØØ :: IF EOF(1)<>
1 THEN 15$ ELSE CLOSE #1 ::
CLOSE #2 :: END
28$ LN$=CHR$(INT(AN/256))&CH
R$(AN-256*INT(AN/256)):: RET
URN
```

I still think of the TI as a HOME computer, and I still think that the home computer is an invaluable educational tool - but I guess not many folks agree with me. I had thougnt of writing full disks of a progressive series of lessons on one subject, but my present two full disks of math education have sold a combined total of 7 copies in 7 months, so that would obviously be a waste of time.

I had written this next program for that purpose and I guess it's no use wasting it, so -

```
1ØØ CALL CLEAR :: CALL TITLE
(5,"TAKE AWAY"):!by Jim Peter
son
11$ DISPLAY AT(3,1Ø):"COPYRI
GHT":TAB(1Ø);"TIGERCUB SOFTW
ARE":TAB(1Ø);"FOR FREE":TAB(
12);" DISTRIBUTION":TAB(11);
"SALE PROHIBITED"
12$ CALL PEEK(-28672,A@):: I
F A@=Ø THEN 15$
13$ DATA FINE,NO,GOOD,UHOH,R
IGHT,TRY AGAIN,YES,THAT IS N
OT RIGHT
14$ FOR J=1 TO 4 :: READ RI6
HT$(J),WRONG$(J):: NEXT J
15$ FOR D=1 TO 1ØØØ :: NEXT
D :: CALL DELSPRITE(ALL)
16$ CALL CLEAR :: CALL CHAR(
95,"FFFF"):: CALL MAGNIFY(2)
:: RANDOMIZE :: CALL SCREEN(
14):: FOR SET=5 TO 8 :: CALL
 COLOR(SET,16,1):: NEXT SET
17$ CALL CHAR(12Ø,"E7ØØ42ØØ1
8ØØ7EØØØØE7ØØ42ØØ99423CE7ØØ4
2ØØ99423CØØE7ØØ4218ØØ3C42ØØ"
)
18$ CALL CHAR(124,"ØE3ØØ4Ø1Ø
ØØ7ØØØØ7ØØØ2ØØØØE31ØØØ")
19$ DISPLAY AT(3,1Ø):"TAKE A
WAY" :: CALL CHAMELEON
2Ø$ CALL COLOR(14,2,2):: CAL
L HCHAR(4,4,143,2):: CALL HC
HAR(5,4,143,2):: CALL SPRITE
(#25,12Ø,11,25,25)
21$ T=T+1 :: N=1-(T>5)-(T>15
):: G=1Ø-(T>5)*8Ø-(T>15)*81Ø
 :: H=Ø-(T>5)*1Ø-(T>15)*9Ø
22$ X=INT(6*RND+H):: Y=INT(6
*RND+H):: IF Y>X THEN TT=X :
: X=Y :: Y=TT
23$ IF X=X2 OR Y=Y2 THEN 22$
 :: X2=X :: Y2=Y :: Z=X-Y
24$ GOSUB 25$ :: GOTO 21$
25$ GOSUB 26$ :: GOSUB 28$ :
: GOSUB 31$ :: FOR D=1 TO 2Ø
$ :: NEXT D :: CALL DELSPRIT
E(ALL):: DISPLAY AT(18,1):: 
CALL CHAMELEON :: CALL SPRIT
E(#25,12Ø,11,25,25):: RETURN
26$ FOR J=1 TO LEN(STR$(X)):
: :: A(J)=VAL(SEG$(STR$(X),J
,1)):: NEXT J :: FOR J=1 TO
LEN(STR$(Y)):: B(J)=VAL(SEG$
(STR$(Y),J,1)):: NEXT J
27$ FOR J=1 TO LEN(STR$(Z)):
: C(J)=VAL(SEG$(STR$(Z),J,1)
):: NEXT J :: W=LEN(STR$(Z))
-LEN(STR$(X)):: RETURN
28$ R=96 :: CC=96 :: FOR J=1
 TO N :: CALL SPRITE(#J,48+A
(J),11,R,CC):: CC=CC+16 :: N
EXT J
29$ R=116 :: CC=96 :: FOR J=
1 TO N :: CALL SPRITE(#4+J,4
8+B(J),11,R,CC):: CC=CC+16 :
: NEXT J
3Ø$ CALL HCHAR(18,12,95,N*3)
:: CC=CC-16 :: RETURN
31$ R=14Ø :: FOR J=LEN(STR$(
Z))TO 1 STEP -1 :: IF LEN(ST
R$(X))=1 THEN M=CC :: GOTO 3
3$
32$ FOR M=CC TO CC+8 :: CALL
 LOCATE(#J-W,96,M,#J+4-W,116
,M):: NEXT M
33$ IF A(J-W)>=B(J-W)THEN 36
$ :: CALL SPRITE(#28,49,16,9
6,M-9)
34$ IF F3=1 THEN 36$ :: F1=1
 :: A(J-W-1)=A(J-W-1)-1 :: I
F A(J-W-1)<Ø THEN A(J-W-1)=9
 :: F2=1 :: A(J-W-2)=A(J-W-2
)-1
35$ CALL SPRITE(#22,48+A(J-W
-1),16,8$,M-24):: IF F2=1 TH
EN CALL SPRITE(#21,48+A(J-W-
2),16,8$,M-4$)
36$ CALL SPRITE(#27,45,16,11
6,M-12)
37$ CALL SPRITE(#2$,63,11,R,
M)
38$ CALL KEY(3,K,ST):: IF ST
<1 OR K<48 OR K>57 THEN CALL
 PATTERN(#2$,32):: CALL PATT
ERN(#2$,63):: GOTO 38$
39$ CALL DELSPRITE(#2$,#28):
: CALL SPRITE(#12+J,K,11,R,M
)
4ØØ IF K-48<>C(J)THEN GOSUB
45$ :: CALL DELSPRITE(#12+J)
:: F3=1 :: GOTO 33$
41$ CALL DELSPRITE(#27):: IF
 F1=1 THEN 42$ ELSE IF F2=1
THEN 43$ ELSE 44$
42$ F1=Ø :: CALL DELSPRITE(#
J-W-1):: FOR P=8$ TO 96 :: C
ALL LOCATE(#22,P,M-24):: NEX
T P :: CALL SPRITE(#J-W-1,48
+A(J-W-1),16,96,M-24):: CALL
 DELSPRITE(#22):: GOTO 44$
43$ F2=Ø :: CALL DELSPRITE(#
J-1-W):: FOR P=8$ TO 96 :: C
ALL LOCATE(#21,P,M-24):: NEX
T P :: CALL SPRITE(#J-1-W,48
+A(J-1-W),16,96,M-24):: CALL
 DELSPRITE(#21)
44$ CC=CC-16 :: NEXT J :: GO
SUB 48$ :: F3=Ø :: RETURN
45$ DATA 123,124,125,123,124
,125,123,12$
46$ IF A@=Ø THEN 47$ :: CALL
 SAY(WRONG$(INT(RND*4+1)))
47$ RESTORE 45$ :: FOR JJ=1
TO 8 :: READ P :: CALL PATTE
RN(#25,P):: XX=2^25$ :: NEXT
 JJ :: RETURN
48$ DATA 121,122,121,122,121
,122
49$ IF A@=Ø THEN 5Ø$ :: CALL
 SAY(RIGHT$(INT(4*RND+1)))
5Ø$ RESTORE 48$ :: FOR JJ=1
TO 6 :: READ P :: CALL PATTE
RN(#25,P):: XX=2^25$ :: NEXT
 JJ :: RETURN
51$ SUB CHAMELEON
52$ M$="18ØØ665AC342D8667E18
81ØØ995AC3A5E78142BD24DB66Ø$
8142992491E5AC3A53C2418ØØFF
DB5AFF7EFFØØ99188188ØØ66Ø$18"
53$ RANDOMIZE :: CALL CHAR(1
28,G$(M$,INT(43*RND+1)*2-1
,16 :: X=INT(14*RND+3)
54$ =INT(14*RND+3):: IF Y=X
 TH 54$ :: CALL COLOR(13,X
,Y)
55$ ALL HCHAR(1,2,128,3Ø):: 
CA HCHAR(24,2,128,3Ø):: C
ALL CHAR(1,31,128,96):: SUB
END
56$ UB TITLE(S,T$)
57$ ALL SCREEN(S):: L=LEN(T
$):: CALL MAGNIFY(2)
58$ OR J=1 TO L :: CALL SPR
ITE ),ASC(SEG$(T$,J,1)),J+1
-(J =S)+(J+1=S+13)+(J>14)*1
3,J 7Ø/L),1Ø+J*(2ØØ/L))::
NEX
59$ 8END
```

W you give your printer ins ctions, it remembers the ntil you turn it off. Tha is why you may find tha your letter to Aunt Sal is being printed in dou width underlined ita s. The solution is fou in another gobbledegoo aragrapn in the Gemini man - "when (ESC "@") is t to the printer, the con ions of the printer are itialized."

In lain English, OPE :1:"PIO" :: PRINT #1:C HR$);"@" in your progra or RL U, FCTN R, CTRL U, SHI 2 at the beginning of you TI-Writer text will can out any special ord s the printer is still rem ering and return it to its efault conditions.

H 's a bright idea by Sco King in the AVTI U6 new tter. When you load a pro m in order to modify it, ut a reminder of its fil me in the first line, suc s 1 ! SAVE DSK1.NAME . The when you are ready to sav t, just list line 1, FCT , use the space bar to eras the 1 !, and Enter.

EMORY FULL!

Jim Peterson

TIPS FROM THE TIGERCUB

#36

TIGERCUB SOFTWARE
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```
**************************
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*  routines, tips, tricks, *
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**************************
```

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For descriptions of these send a dollar for my catalog!

Some old business to take care of -

Tom Wible (? - handwritten signature), in the MANNERS NEWSLETTER for April, points out that I am all wrong in my comments about updating a FIXED SEQUENTIAL file. There is no such thing as a fixed sequential or fixed relative file, only fixed files accessed sequentially or randomly (relative). Sequential and relative are access modes, not file attributes. There is no reason to open a fixed file in anything other than RELATIVE mode, because if you do not specify the REC clause in your INPUT or PRINT, the computer defaults to sequential processing.

In one paragraph, that gentleman told me something about files I had'nt learned from the TI manuals and from the 2000+ newsletters on my shelf. File handling is apparently easy to understand for those who have had formal computer training, but it is a frustrating mystery to those of us who try to learn by hacking it. Won't somebody please write a series of articles, somewhere, in plain, non-computerese English?

And here is the last word on printing lines of more than 80 characters out of the TI-Writer Formatter, by W. Stewart Ash in a MANNERS newsletter of May-June 1986. It is only necessary to use the .FI command, and to set the right margin to the length you want, for example .FI;RM 120 for lines of 120 characters; and then use .TL or CTRL U commands to select a type font which will fit that many characters on a line (136 or 132 in condensed, depending on your printer; 96 in elite).

Here's a new way to make music, for you Basic-only users, music programmers and country music fans.

```
100 CALL CLEAR
110 PRINT "      WILDWOOD FLOWER": : :" on the hammered dulcimer": : : : : : : :"
        by Jim Peterson"
120 DIM S(26)
130 F=262
140 FOR N=1 TO 25
150 S(N)=INT(F*1.059463094^(N-1))
160 NEXT N
170 READ N
180 C=S(N)
190 D=S(N)
200 CALL SOUND(-350,S(N),0)
210 RESTORE 350
220 FOR J=1 TO 63
230 GOSUB 260
240 NEXT J
250 GOTO 200
260 READ N
270 CALL SOUND(-350,S(N),0)
280 X=1^100
290 CALL SOUND(-350,S(N),0,C,9)
300 X=1^100
310 CALL SOUND(-350,S(N),0,C,9,D,19)
320 D=C
330 C=S(N)
340 RETURN
350 DATA 5,6,8,8,10,13,5,5,6,5,3,3,5,3,1,1
360 DATA 5,6,8,8,10,13,5,5,6,5,3,3,5,3,1,1
370 DATA 8,13,17,17,17,15,13,13,8,8,10,10,13,10,8,8
380 DATA 1,1,1,3,5,5,8,5,3,3,5,3,1,1,1
```

Lines 120-160 set up a scale of two octaves, beginning with the frequency in line 130 - to change the key, just change that frequency. Lines 170-190 set up the initial values, line 200 prevents a pause while data is being restored. Then the routine reads the data and plays the music.

Note the dummy calculation in lines 280 and 300, which does nothing but create a brief pause while the value of X is computed. This is a good method for a delay because it can be adjusted so exactly by changing the exponent, but use a value of 1 to avoid a numeric overflow.

To write your own music by this method, just list the notes of a 2-octave scale from your starting frequency C C# D Eb E F F# G - etc. and number them 1 to 25.

Then, list the notes of your song by their number in the DATA statements. For a longer note, list it twice or more. Change the TO

value in line 22$ to your total number of notes, and RUN!

Here's one just to doodle around with. You can create a 3-dimensional maze, save it to tape or disk, or erase it and watch the computer draw it again.

```
19$ CALL CLEAR :: CALL CHAR(
128,"FF$$$$$$$$$$$$FF8181818
1819181818189$8$8$8$8$FFFF8
$8$8$8$8$8$81")
11$ CALL CHAR(132,"81$1$1$1$
1$1$1FFFF$1$1$1$1$1$1818181$$$
$$$$$$$$$81"):: T=1 :: DIM K
$(15)
12$ DISPLAY AT(3,7):"SORDIAN
 KNOT": : :TAB(12);"by Jim P
eterson"
13$ DISPLAY AT(9,1):" Use ar
row keys to create a":"3-dim
ensional maze."
14$ DISPLAY AT(12,1):" You m
ay at any time press":"Q to
clear the screen, or P";"to
save a manually created":"sc
reen."
15$ T=1 :: DISPLAY AT(17,1):
"Choose - ":" (1) Manual":"
(2) Automatic":" (3) Retrace
":" (4) Load"
16$ ACCEPT AT(17,11)VALIDATE
("1234")SIZE(1)BEEP:G :: ON
G GOTO 17$,22$,29$,4$$
17$ GOSUB 44$
18$ CALL KEY(3,K,ST):: IF ST
=$ THEN 18$ ELSE D=POS("EDXS
QP",CHR$(K),1)+1 :: ON D GOT
O 18$,2$$,2$$,2$$,2$$,19$,36
$
19$ CALL CLEAR :: GOTO 15$
2$$ D=D-1 :: IF ABS(D-D2)=2
THEN 18$ :: GOSUB 51$ :: IF
D<>D2 THEN GOSUB 45$
21$ GOSUB 49$ :: GOSUB 52$ :
: GOTO 18$
22$ GOSUB 44$ :: RANDOMIZE
23$ D=D+1+(D=4)*4 :: CALL KE
Y($,K,ST):: IF ST=$ THEN 25$
24$ IF K=8$ THEN 36$ ELSE IF
 K=81 THEN CALL CLEAR :: GOT
O 15$
25$ T=INT(4*RND+2)*2-INT(2*R
ND)
26$ FOR J=1 TO T :: IF D<>D2
 THEN GOSUB 45$
27$ GOSUB 49$ :: CH=128-(D=1
)-(D=3):: CALL GCHAR(R,C,G):
: IF G<>32 THEN IF INT(2*RND
+1)<>1 THEN CH=6
28$ GOSUB 53$ :: NEXT J :: G
OTO 23$
29$ IF LEN(K$(1))=$ THEN DIS
PLAY AT(24,1):"CAN'T DO THAT
" :: GOTO 16$
3$$ CALL CLEAR :: GOSUB 44$
:: FOR J=1 TO T :: FOR JJ=1
TO LEN(K$(T)):: D=POS("EDXS"
,SEG$(K$(T),JJ,1),1)
31$ IF D=$ THEN 35$ :: IF D<
>D2 THEN GOSUB 45$
32$ GOSUB 49$ :: CH=128-(D=1
)-(D=3):: CALL GCHAR(R,C,G):
: IF G=32 THEN GOSUB 53$ ::
GOTO 35$
33$ K=ASC(SEG$(K$(T),JJ+1,1)
):: IF K<>67 AND K<>79 AND K
<>85 THEN JJ=JJ+1 :: GOTO 33
$
34$ GOSUB 48$ :: GOSUB 53$
35$ NEXT JJ :: NEXT J :: GOT
O 16$
36$ IF LEN(K$(1))>$ THEN 37$
 :: DISPLAY AT(12,1)ERASE AL
L:"CAN'T DO THAT!" :: GOTO 1
5$
37$ DISPLAY AT(12,1)ERASE AL
L:"Save to - ":" (1)Cassette
":" (2)Disk" :: ACCEPT AT(12
,11)VALIDATE("12")SIZE(1):S
:: IF S=1 THEN OPEN #1:"CS1"
,INTERNAL,OUTPUT,FIXED 192 :
: GOTO 39$
38$ DISPLAY AT(16,1):"Filena
me DSK" :: ACCEPT AT(16,13):
F$ :: OPEN #1:"DSK"&F$,INTER
NAL,FIXED 192,OUTPUT
39$ PRINT #1:T :: FOR J=1 TO
 T :: PRINT #1:K$(J):: K$(J)
="" :: NEXT J :: CLOSE #1 ::
 GOTO 15$
4$$ DISPLAY AT(12,1)ERASE AL
L:"Load from -":" (1)Cassett
e":" (2)Disk" :: ACCEPT AT(1
2,13)VALIDATE("12")SIZE(1)BE
EP:L :: IF L=1 THEN OPEN #1:
"CS1",INTERNAL,FIXED 192,INP
UT :: GOTO 42$
41$ DISPLAY AT(16,1):"Filena
me? DSK" :: ACCEPT AT(16,14)
BEEP:F$ :: OPEN #1:"DSK"&F$,
INTERNAL,FIXED 192,INPUT
42$ INPUT #1:T :: FOR J=1 TO
 T :: INPUT #1:K$(J):: NEXT
J :: CLOSE #1 :: GOTO 3$$
43$ CLOSE #1 :: GOTO 3$$
44$ CALL CLEAR :: CALL COLOR
(13,5,11):: R,R2=12 :: C,C2=
14 :: D2=3 :: CH=129 :: CALL
 HCHAR(R2,C2,CH):: RETURN
45$ CH2=128+((D2=1)*(D=2)*3)
+((D2=1)*(D=4)*5)+((D2=3)*(D
=2)*2)+((D2=3)*(D=4)*4)+((D2
=2)*(D=1)*4)+((D2=2)*(D=3)*5
)
46$ CH2=CH2+((D2=4)*(D=1)*2)
+((D2=4)*(D=3)*3):: CALL HCH
AR(R2,C2,CH2):: RETURN
47$ CALL KEY(3,K,ST):: IF ST
=$ THEN 47$ ELSE IF POS("COU
",CHR$(K),1)=$ THEN 47$
48$ GOSUB 51$ :: IF K=67 THE
N CH=134 :: RETURN ELSE IF K
=85 THEN CH=5 :: RETURN ELSE
 RETURN
49$ R=R+(D=1)-(D=3):: IF R<3
 OR R>24 THEN R=R2
5$$ C=C+(D=4)-(D=2):: IF C<3
 OR C>3$ THEN C=C2 :: RETURN
 ELSE RETURN
51$ IF G<>1 THEN RETURN ELSE
 K$(T)=K$(T)&CHR$(K):: IF LE
N(K$(T))<193 THEN RETURN ELS
E T=T+1 :: RETURN
52$ CH=128-(D=1)-(D=3):: CAL
L GCHAR(R,C,G):: IF G<>32 TH
EN GOSUB 47$
53$ CALL HCHAR(R,C,CH):: R2=
R :: C2=C :: D2=D :: RETURN
```

I think that educational programs should teach, not just test. This one takes up the kind of problems we all hated in school, but if you get the answer wrong it will show you how to work it.

```
1$$ CALL CLEAR :: RANDOMIZE
11$ DATA LUMBERJACK,CUT,CORD
S OF WOOD,BOY,PICK,QUARTS OF
 BERRIES,ELEPHANT,EAT,BALES
OF HAY,COW,GIVE,GALLONS OF M
ILK
12$ FOR J=1 TO 4 :: FOR L=1
TO 3 :: READ M$(J,L):: NEXT
L :: NEXT J
13$ A=INT(5*RND+2):: IF A=A2
 THEN 13$ ELSE A2=A
14$ B=INT(9*RND+2):: IF B=B2
 THEN 14$ ELSE B2=B
15$ C=INT(9*RND+2):: IF C=C2
 THEN 15$ ELSE C2=C
155 X=B/C/A :: IF LEN(STR$(X
))>4 THEN 13$
16$ D=INT(4*RND+1):: IF D=D2
 THEN 16$ ELSE D2=D
17$ DISPLAY AT(3,1)ERASE ALL
:"IF";A;M$(D,1);"S CAN ";M$(
D,2);B;M$(D,3);" IN";C;"DAYS
,"
18$ DISPLAY AT(6,1):"HOW MAN
Y ";M$(D,3);" CAN 1 ";M$(D,1
);" ";M$(D,2);" IN 1 DAY?"
19$ ACCEPT AT(9,1)VALIDATE(N
UMERIC)BEEP:G
2$$ IF G<>X THEN 3$$ :: DISP
LAY AT(11,1):"CORRECT!"
21$ DISPLAY AT(23,1):"PRESS
ANY KEY" :: CALL KEY($,K,ST)
:: IF ST=$ THEN 21$ ELSE 13$
3$$ DISPLAY AT(11,1):"NO -":
"IF";A;M$(D,1);"S CAN ";M$(D
,2);B;M$(D,3);" IN";C;"DAYS.
"
31$ DISPLAY AT(15,1):"THEN";
A;M$(D,1);"S CAN ";M$(D,2);B
;"/";C;M$(D,3);" IN 1 DAY":B
;"/";C;"=";B/C
32$ DISPLAY AT(19,1):"SO 1 "
;M$(D,1);" CAN ";M$(D,2);B/C
;"/";A;M$(D,3);" IN 1 DAY":B
/C;"/";A;"=";X :: GOTO 21$
```

Here's a new way to put a title on the screen -

```
1$$ !SCATTERPRINT by Jim Pet
erson
11$ CALL CLEAR :: M$="TIGERC
UB SOFTWARE" :: L=LEN(M$)::
IF L>28 THEN 11$ :: C$=SEG$(
"ABCDEFGHIJKLMNOPQRSTUVWXYZ[
\",1,L)
12$ FOR J=1 TO L :: RANDOMIZ
E :: X=INT(LEN(C$)*RND+1)::
Y=ASC(SEG$(C$,X,1))-64
13$ DISPLAY AT(12,13-L/2+Y):S
EG$(M$,Y,1);:: C$=SEG$(C$,1,
X-1)&SEG$(C$,X+1,255):: NEXT
 J
14$ GOTO 14$
```

This one is very basic, but if you have Terminal Emulator II, Speech Synthesizer, and a preschool child, it's a fine way to learn the alphabet, the keyboard, to spell his name, or just to have fun with - try a string of KK's for a train chugging uphill.

```
1$$ OPEN #1:"SPEECH",OUTPUT
11$ CALL KEY(3,K,S)
12$ INPUT M$
13$ PRINT #1:M$
14$ GOTO 12$
```

Memory full - Jim P.

Arcade Action Software
4122 N. Glenway
Wauwatosa, WI 53222

! ! TOUCHDOWN ! !

Professional Football Prediction Program

A. Load latest ratings from file
   Current ratings with file date are on the disk
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   Each week, game scores are instilled into rating formulas.

C. Ratings adjusted
   Individual rating changes can be made at the option of
   program user, and can be used to set up new league ratings.

D. Save ratings on file
   After ratings have been updated or adjusted, they can be
   saved on disk or tape for future use.

E. Predictions
   Game score predictions are made based upon present ratings,
   home advantage, momentum and upset or bounce back factors.

F. Prediction order
   Weekend predicted scores are arranged in spread order.

G. Team names & abbreviations
   Abbreviations used in program for brevity,
   however, the program will accept the name of the
   city or team, and gives prompts for miss-spellings.

H. League line-ups
   Lists entire league by divisions.

I. League rating order
   Lists entire league in descending rating order.

J. Initialization
   Prior to the start of the exhibition season, regular
   league play and post-season play-offs, initialization
   eliminates momentum and upset factors.

K. League switch
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7	NYJ	BY 4.36	OVER IND
6	DAL	BY 3.57	OVER SLC
5	KCC	BY 3.41	OVER HOU
4	MIA	BY 2.39	OVER NEP
3	RAI	BY 1.81	OVER SEA
2	MIN	BY 1.15	OVER DET
1	PIT	BY .5	OVER CLE

NAMES & ABBREVIATIONS

BUF - BUFFALO BILLS
NEP - NEW ENGLAND PATRIOTS
MIA - MIAMI DOLPHINS
IND - INDIANAPOLIS COLTS
NYJ - NEW YORK JETS
CLE - CLEVELAND BROWNS
HOU - HOUSTON OILERS
PIT - PITTSBURGH STEELERS
CIN - CINCINNATI BENGALS
SDC - SAN DIEGO CHARGERS
RAI - LOS ANGELES RAIDERS
DEN - DENVER BRONCOS
KCC - KANSAS CITY CHIEFS
SEA - SEATTLE SEA HAWKS
PHI - PHILADELPHIA EAGLES
DAL - DALLAS COWBOYS
WAS - WASHINGTON REDSKINS
SLC - ST LOUIS CARDINALS
NYG - NEW YORK GIANTS
MIN - MINNESOTA VIKINGS
DET - DETROIT LIONS
CHI - CHICAGO BEARS
TBB - TAMPA BAY BUCCANEERS
GBP - GREEN BAY PACKERS
ATL - ATLANTA FALCONS
RAM - LOS ANGELES RAMS
SFF - SAN FRANCISCO 49'ERS
NOS - NEW ORLEANS SAINTS

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