



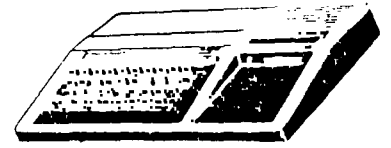
New Hampshire 99'ers

July 1986

Newsletter

New Hampshire

July 86



NH99UG NEWSLETTER - PO BOX 5991 - MANCHESTER, NH 03108-5991

VOL. 4 NO. 7

>NEW

SEE YOU AUGUST 4TH AT BONANZA!

IN THIS ISSUE:

We're in transition! Yes, I know this is late; we'll do better in August. After all, this is the first non-Helene newsletter since long before I was a member. We will miss her efforts; thank goodness she still helps out in many areas!

What's new: A gentleman from California wrote our club seeking correspondents. As he said, "I am retired, 60 years of age, on limited income and have more time on my hands than brains." He is looking for other fanatics to share programs, ideas, and fellowship.

Harry Allston
10300 Kings River Road #57
Reedley, CA 93654

We have 50 catalogs from Falcon Safety Products on keeping all your computer 'stuff' clean. If you can't make it to the next meeting, send me a note (and \$0.50) and I will mail one to you.

Mark Beck of the Jacksonville User Group wrote regarding a series of programs he wrote called 'Creative Filing System', something akin to a databased filing system. I learned my lesson when I recommended JHB - I have no idea how good or bad this thing is. Any brave souls out there? Send a disk mailer, 2 SS/SD (or 1 DS/SD) and \$10.00 to:

Mark Beck
166 Delaware Circle
Jacksonville, AR 72076

NEW CLUB ACQUISITIONS:

The club purchased the disk version of Extended Graphics for the Paint 'n Print program from Navarone. We also purchased a four disk set (two floppies, actually) of GRAPHX pictures which may be converted to TI-ARTIST. We'll all see these at the August meeting.

DONATIONS

A special thanks to Andre' Roy for the donation of a PEB, joysticks, modulator, disks, modules, and books. The PEB will be raffied off at a later date (everyone will have ample time to purchase tickets by mail); the remainder of the equipment will remain in the club equipment pool. Thanks again Andre'!

I have spoken at length about the fate of Shareware if the users don't donate to the authors. Now you can get it straight from someone who has been abused.

Converting RS232/3 and /4 back to /1 and /2 (or vice versa).

Beefed up Spv's Demise.

Converting 80 column program lists to 28 columns (you will see two examples in this issue).

Tips from the Tigercub.

I GOT A DONATION ON MY
CALENDAR FREEMWARE DISK!

Richard J. Bailey
699 Church Street
Saco, N.H. 03067
NH99ER USER GROUP

Last week I received my first donation from any member of any club (other than our club) on my CALENDAR disk in the 8 months that it's been out. This brings the grand total I've received to \$70 before expenses. I sent copies to about half a dozen large user groups at my own expense late last year figuring that would be a good way to propagate the disk. I told the clubs that I appreciate it if, in exchange for the disk I sent them, they could send me a disk of programs but they were not obligated to do so. They chose not to be obligated. In December I sent out a corrected disk asking that each person copy it and send it to the next person on the list with the last person returning it to me. I heard from only one person who passed the disk on and I never received the disk back. I know that MINYCAL on the entire disk is on bulletin boards in states from Virginia to Oregon.

The returns on the CALENDAR disk are probably typical of most "FREEMWARE" disks. Some like DRIBBLE obviously do better but I know from reading other newsletters that there are some doing worse.

What does this mean for the future of freemware? I can be sure that I will never release another disk or program and I am sure that others have and will do the same. Whether new hardware comes out or not isn't important if you don't have programs to run. Check to see how many companies are producing new programs for the T.I. The future could be bright if "FREEMWARE" was supported but I don't think this will happen.

BACK TO BASICS

Curtis Alan Provance
New Hampshire 99'ers User Group

DEF statements are often overlooked in BASIC programming because they appear to be limited. Not so! On page 11-105 of the User's Reference Guide, second paragraph, you can find the following:

"The DEFine statement specifies the function to be used based on the parameter (if specified), **variables, constants, and other built-in functions.**" (emphasis mine)

Furthermore, you may use DEF's within DEF's, as long as nothing ends up referencing itself. This is all well and good, but it is useful?

Consider a program which must print strings or numbers. You may want some items centered, such as headings, etc.

```
100 DEF CENTER$(A$)=SEG$(BLANK$,1,(WIDTH-LEN(A$))/2)&A$
```

Did you notice that there are three parameters in the DEF? BLANK\$ is a string constant (40 spaces) and WIDTH is a numeric variable (the width of your screen, printer carriage, whatever you want).

You may also right justify text:

```
110 DEF RIGHT$(A$)=SEG$(BLANK$,1,WIDTH-LEN(A$))&A$
```

Numbers may also be manipulated. This DEF rounds a number to the number of DIGITS:

```
120 DEF ROUND(A)=INT(A'DIGITS+.5)/10'DIGITS
```

As mentioned previously, you may also use DEF's inside other DEF's:

```
130 DEF DOLLAR$(A$)="$"&RIGHT$(A$)
```

Print codes may also be added easily with DEF's. These control codes are relatively common:

```
140 DEF BOLD$(A$)=CHR$(27)&"E"&A$&CHR$(27)&"F"
```

```
150 DEF BIG$(A$)=CHR$(14)&A$&CHR$(20)
```

If you need help in a special application or want to share some interesting DEF's with other club members, please drop me a note.

CORRECTION!

The Spy's Demise program listed elsewhere has some control codes imbedded in line 320. These codes are entered by (you guessed it) the control key. In the line below, the capital A's, C, and D's are entered by typing CONTROL A, CONTROL C, and CONTROL D.

```
320 DISPLAY AT(1,22):"";"a
aa aa aa aa aa aa a' 99":TA
R(22);"";"i ii ii ii ii ii
ii i' DDDD": " tv";TAB(22);"
'DAAAA": "r uw rr rr rr rr rr
r"
```

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<<<LAST MINUTES>>>

CONVERT 80 TO 28 COLUMNS

Curtis Alan Provance

New Hampshire 99er's User Group

The meeting of July 7 was opened by freshly-vacationed Pres. Provance, who brought news of the TI compatible "Geneve." This new computer is on a card which fits in the PE box, and uses an AT-style keyboard. It has 512K and can use Myarc memory expansion up to 1.5 megabytes of CPU memory! The Geneve supports RGB in 80 columns, and is compatible with old TI and Myarc cards. Owners of full-blown systems will appreciate being able to up-grade without having to totally toss out their old system.

Curtis talked about Funlwriter, the multi-function program from Australia. As well as providing TI-Writer functions, this disk contains the equivalent of functions 3 and 5 of the Editor/Assembler module, Disk-0, a Forth boot, and has three spaces left on the menu for the user to add BASIC or X-B programs. Curtis informed the group that the author had requested that the club collect the "freeware" donations from members using this disk, and the club will forward the money to Australia in international currency.

Curtis also discussed BA-Writer, another "TI-Writer" program, which he recommends for use when strictly word-processing functions are desired. Again, submit donations to the club for forwarding to Italy to support this fine program.

(Editorial note: I think TI users have forgotten the days when word processing and other data management software cost as much as \$100 and was not nearly so refined or versatile as what is now available for a fraction of the cost. I recently read some sound advice that said TI users had better learn to program because no one is going to continue to write for the TI, being little money or compensation for doing so. Take a look at prices for Apple, IBM or even Commodore software and then send your money to these guys and consider yourself lucky!)

Curtis then demonstrated Millers Graphics DISXASSEMBLER, and passed around a printer dump of a disassembled program for members to view.

The raffle for Advanced Diagnostics was one by Curtis, who no doubt will put it to good use!

Richard Bailey's RAM disk (reviewed in last month's newsletter) was demonstrated, and members signed up to obtain the cards in a group purchase.

Richard also booted up Joypaint for those who had missed seeing it demonstrated at last month's meeting.

Did anybody notice that Curtis's demo's comprised almost the entire meeting? How about bringing in something that you have bought, written, or used, and showing it to the group? Members complain that there's not enough BASIC content to the meetings -- why not bring your own to share?

file closed --

Ellen Rule, Secretary

I realized that I have to put BASIC and Extended BASIC programs in our newsletter to keep most of you happy. With that in mind, I wanted to print them in a 28 column format similar to the format you will be entering them into your computer. The 28 column listing is a must for checking your typing errors.

The major hassle with a conversion of this type is what do you do with a line that is over 80 columns long? It wraps around to the next line when you LIST "DSK1.SPYSDMISE" and you have to check for these things. I did this by inputting a line and checking if it were 80 columns long. If it were, I would look at the next line. Any program line in a listing has at least one number followed by a space. Therefore, I cut off the first word by finding the first space and taking all characters before it. I then checked to see if this word were a number by taking VAL and branching on error. I can't think of any other time you would see a number and space except in a string. Since I wanted a really simple program, I decided that the chance of a string with a number-space falling in that spot was slim. Besides, I wrote this program in two minutes - no bells and whistles! I used this LISTER program to generate its own listing as well as that of SPY'S DEMISE. Any enhancements will be greatly appreciated.

By the way, there was a converter program in a recent issue of MICROpendium which converted 30 listings back into MERGEable files. This short routine has been added to that as well to enhance it. I will publish that next month.

```
3 CALL CLEAR :: INPUT "NAME
OF 80 COLUMN LISTING? ":OLD
$ :: INPUT "NAME OF 28 COLUM
N LISTING? ":NEW$ :: OPEN #
1:OLD$ :: OPEN #2:NEW$
4 IF EOF(1)THEN T$="" :: GOT
O 8 ELSE LINPUT #1:T$ :: L=L
EN(T$):: ON ERROR 6 :: A=VAL
(SEG$(T$,1,POS(T$," ",2)))
5 IF TEMP$<>"" THEN 8 ELSE T
EMP$=T$ :: T$="" :: IF L=80
THEN 4 ELSE 8
6 RETURN 7
7 TEMP$=TEMP$&T$ :: T$="" ::
IF L=80 THEN 4
8 X$=SEG$(TEMP$,1,28):: TEMP
$=SEG$(TEMP$,29,255):: PRINT
#2:X$ :: IF TEMP$>"" THEN
8 ELSE TEMP$="" :: IF T$=""
THEN IF EOF(1)THEN 9 ELSE 4
ELSE 7
9 CLOSE #1 :: CLOSE #2
```

SPY'S DEMISE

Curtis Alan Provance

New Hampshire 99er's User Group

SPY'S DEMISE is a game - and a contest - from Challenger Software. In this game, you maneuver your American spy through several 'floors' of the Bangkok Hilton without getting 'hit' by Soviet spies. The contest is solving a cryptogram which is spelled out as you successfully navigate each floor. The first two people from each state, province, country, etc. to solve the puzzle win free software.

SPY'S DEMISE comes in versions for almost everyone. If you have E/A, Mini-mem, or Extended BASIC you may load and run this fine program (which will use either joysticks or keyboard). The Extended BASIC version does not require memory expansion (although if you have the extra 32K, you get the machine language version, which is excellent). This comes on cassette or disk from:

Challenger Software International
Box 50150
St. Louis, Missouri 63105

Although the machine language version is quite good, I was not impressed with the Extended BASIC program. The spy moved rather jerkily and the 'hits' were somewhat hap-hazard. I rewrote the Extended BASIC version (sans cryptogram) and have printed it here. I used the 80 to 28 column converter I wrote (found elsewhere in this issue) to list it. Have fun!

```
100 !*****
110 !* SPY'S DEMISE *
120 !* VER. 1.00 XB *
130 !* M.C.SUMNER *
140 !* 14 SEPT 1983 *
150 !* REWRITTEN BY *
160 !* C.A.PROVANCE *
170 !* 6 DEC 1984 *
180 !*****
190 GOTO 210 :: CALL KEY ::
CALL JOYST :: CALL SCREEN ::
CALL COLOR :: CALL HCHAR ::
CALL VCHAR :: CALL CHAR ::
CALL COINC :: CALL SPRITE ::
CALL MOTION
200 CALL LOCATE :: CALL SOUND ::
CALL PATTERN :: CALL CLEAR ::
CALL DELSPRITE :: MEN
,K,S,X,Y,SC,HSC,L,F,T,V,SCR,
S1=0 :: D#,CD#,K#=""
210 DIM R(11),SP(8):: C(0)=1
7 :: C(1)=177 :: D(0)=181 ::
D(1)=11 :: FOR X=0 TO 10 ::
R(X)=176-16*X :: NEXT X ::
R(11)=176 :: DEF M2(L)=2*(L/
2-INT(L/2)):: CALL MAGNIFY(3
```

```
220 READ D# :: CALL CHAR(40,
D#):: FOR X=96 TO 141 :: REA
D D# :: CALL CHAR(X,D#):: NE
XT X
230 DATA @F101021468C495292A
2914827101F03F008008C6221393
4C52518953A602FC,FFFFFFFF
FFFF,000000FFFF,000000BBEE,
000000CC33,FFF0E0F0E0E0E08
240 !@P-
250 DATA C0F0F0F0F0E0FF,C0C0
40C04040404,40C0C0C0C040C,00
0000FFFF,000000BBEE,000000CC
33,0,0000203F7828294E,888060
FFFF,000000C33FC,000000FFFF
260 DATA 000000FFFF,000000BB
EE,000000CC33,0,0F08090A0A09
0808,0F0000CC33,F808C82828C8
0888,F80000CC33,000000FFFF,0
00000BBEE,000000CC33,0
270 DATA 007F405D5151505F,40
407FE0EB,00FC04F414D454D4,04
04FC0EBB,3CFF607C7F7E7C7E,87
84FCEE,0,0,3CFF607C7F7E7C7E,
42427E3C,0,0
280 DATA 3CFF063EFE7E3E7F,E1
213F77,0,0,3CFF063EFE7E3E7E,
42427E3C,16,16,16,16,16,16,1
6,16,5,7,13,12,16
290 CD#="THIS USED TO BE A C
ODED MESSAGE FROM CSI THAT Y
OU WERE SUPPOSED TO BREAK, S
OLVE, AND SEND TO THEM " ::
CALL CLEAR :: CALL SCREEN(2)
300 FOR X=1 TO 13 :: READ F
:: CALL COLOR(X,F,1):: NEXT
X
310 RANDOMIZE :: FOR X=2 TO
8 :: S=(RND*35-16):: S=S-9*S
GN(S)*(ABS(S)<5):: SP(X)=S :
: NEXT X :: DISPLAY AT(1,3):
"PRESS ANY KEY" :: V=4 :: ME
N=5 :: T=99
320 DISPLAY AT(1,22):"":"a
aa aa aa aa aa aa a' 99":TA
B(22);"":"1 ii ii ii ii ii
ii i' ":" tv";TAB(22);"
"":"r uw rr rr rr rr rr
r ""
330 DISPLAY AT(7,22):"":"x
xx xx xx xx xx x'":TAB(22
);"":"b bb bb bb bb bb bb b
"":" |~ "SP
Y'S" :: SCR,SC=0
```

```

340 DISPLAY AT(12,1):"j jj j
j jj jj jj j'DEMISE":TAB(
22);"":"p pp pp pp pp pp pp
p"" :TAB(22);"":"y yy yy yy
yy yy yy y'SCORE"
350 DISPLAY AT(17,1):TAB(22)
;""000000"":"c cc cc cc cc cc
cc c"" :TAB(18);"ln "":"h h
h hh hh hh hh mo h'HIGH":TAB
(22);""SCORE"
360 DISPLAY AT(22,1):"q qq q
q qq qq qq qq q'000000":TAB(
22);"" : CALL VCHAR(1,2,96
,23):: FOR X=2 TO 8 :: CALL
SPRITE(#X,100,10,1,24*X-24,S
P(X),0):: NEXT X
370 DISPLAY AT(22,29-LEN(STR
$(HSC))):STR$(HSC):: CALL SP
RITE(#9,100,1,177,184,0,0,#1
,128,15,177,16,0,0):: L,F=0
380 CALL KEY(3,K,S):: CALL J
OYST(1,X,Y):: CALL KEY(1,Y,S
1):: IF S+S1+X THEN CALL HCH
AR(1,3,32,19):: CALL MOTION(
#1,0,6)ELSE 380
390 CALL PATTERN(#1,136-V+4*
F):: CALL SOUND(-1,-2+F,0)::
CALL COINC(ALL,Y):: IF Y TH
EN 420 ELSE F=(F=0):: T=T-.5
-(T=0):: DISPLAY AT(2,24):IN
T(T)
400 CALL JOYST(1,X,Y):: CALL
KEY(3,K,S):: IF K=80 THEN 5
20 ELSE IF (X<>-V)*((75.5-K)
*8/15<>-V)THEN 390 ELSE V=-V
410 CALL MOTION(#1,0,1.5*V):
: CALL LOCATE(#9,R(L),D(-(V=
-4))): GOTO 400
420 CALL MOTION(#1,0,0):: CA
LL COINC(#1,#9,8,K):: IF K=0
THEN 480 ELSE V=-V :: CALL
LOCATE(#9,R(L),D(M2(L))): C
ALL COINC(#1,#9,8,K):: IF NO
T K THEN 470
430 CALL SPRITE(#1,132-V,15,
R(L),C(-(V=-4))-2*V,-4,0,#9,
100,1,R(L+1),D(M2(L+1))): L
=L+1 :: SC=SC+INT(T):: T=99
:: DISPLAY AT(2,24):T
440 DISPLAY AT(17,29-LEN(STR
$(SC))):STR$(SC):: IF SC>HSC
THEN HSC=SC :: DISPLAY AT(2
2,29-LEN(STR$(HSC))):STR$(HS
C)
450 DISPLAY AT(1,5)SIZE(11):
SEG$(CD$,11*SCR+1,L):: CALL
SOUND(200,110,30):: CALL SOU
ND(1,110,30):: V=8*(.5-M2(L)
)

```

```

460 L=-L*(L<11):: SCR=SCR-(L
=0):: V=V*SGN(L)-4*(L=0):: C
ALL SPRITE(#1,132-V,15,R(L),
C(M2(L)),0,0):: IF L=0 THEN
IF SCR=9 THEN 500 ELSE 370
470 CALL JOYST(1,X,Y):: CALL
KEY(3,K,S):: T=T-1/3-(T<1):
: DISPLAY AT(2,24):INT(T)::
IF (X=V)+((75.5-K)*8/15=V)TH
EN CALL MOTION(#1,0,1.5*V)::
T=INT(T):: GOTO 390 ELSE 47
0
480 CALL PATTERN(#1,40):: CA
LL SOUND(100,-5,10):: MEN=ME
N-1 :: T=99 :: CALL SOUND(10
00,250,4,500,7):: CALL SOUND
(520,382,0,760,3)
490 CALL SOUND(600,340,2,680
,5):: CALL VCHAR(4,25+MEN,32
,2):: IF MEN THEN CALL SPRIT
E(#1,132-V,15,R(L),C(M2(L)),
0,1.5*V):: GOTO 400
500 CALL DELSPRITE(ALL):: DI
SPLAY AT(24,7):"GAME OVER" :
: CALL SOUND(3000,110,30)::
CALL SOUND(1,110,30):: DISPL
AY AT(24,3):"ANOTHER GAME?"
510 CALL KEY(3,K,S):: IF NOT
S THEN 510 ELSE IF K=89 OR
K=78 THEN CALL HCHAR(24,3,32
,27):: IF K=89 THEN 310 ELSE
CALL CLEAR :: STOP
520 FOR X=1 TO 9 :: CALL MOT
ION(#X,0,0):: NEXT X
530 CALL KEY(0,K,S):: CALL K
EY(1,K,X):: CALL JOYST(1,S1,
Y)IF (S<1)*(X=0)*(S1=0)THEN
530 ELSE CALL MOTION(#1,0,2*
V)
540 FOR X=2 TO 8 :: CALL MOT
ION(#X,SP(X),0):: NEXT X ::
GOTO 390

```

CONVERTING RS232

Glenn Hammond

New Hampshire 99er's User Group

I purchased an RS232 which had been converted to RS232/3 and RS232/4. I converted this 'secondary' card back to a 'primary' card by moving one resistor. My card is model PHP1220, board #1039309-4. I moved the 100 ohm resistor (brown black brown gold) located under IC #U15C23 from the PTH1 positior to the R5 position.

TIPS FROM THE TIGERCUB

#33

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For descriptions of these send a dollar for my catalog!

I found a bug in Nuts & Bolts #2 which prevents using HIGHCHAR after HEAVYCHAR. To fix it, remove the write-protect tab, MERGE DSK1.HEAVYCHAR RES 21188,1 SAVE DSK1.HEAVYCHAR, MERGE Replace write-protect tab.

While they last, and the supply is limited, I will sell a single Texas Instr. cassette interface cable for \$2.99 with any order for cassette software.

Did you ever wonder how a computer sort actually worked? This program will let you actually see it in

action. It will also show you the value being held in the temporary variable T\$, and the total number of swaps and comparisons made.

Then you can change any of the variables and resort. Try AAA in the last position or ZZZ in the first. You will find that some of the fastest sorts are not so fast when a list is already almost in sequence.

```
100 CALL CLEAR :: CALL SCREE
N(16):: FOR SET=2 TO 9 :: CA
LL COLOR(SET,5,16):: NEXT SE
T :: ON WARNING NEXT :: RAND
OMIZE
110 DISPLAY AT(21,1)ERASE AL
L:">>>TIGERCUB SORT WATCHER<
<<":"Wait, please - genera
ting":"random array..." ::
DIM A$(101),B$(101),ST(25,2)
120 FOR J=1 TO 100 :: FOR L=
1 TO 3 :: B$(J)=B$(J)&CHR$(I
NT(26*Rand+65)):: NEXT L :: X
=J :: A$(X)=B$(X):: GOSUB 32
767 :: NEXT J
130 DISPLAY AT(3,1)ERASE ALL
:"(1) BUBBLE SORT" : "(2) SH
AKER SORT" : "(3) SWAP SORT"
: "(4) SHUTTLE SORT" : "(5)
EASY SORT"
140 DISPLAY AT(13,1):"(6) QU
ICK SORT" : "(7) RESORT SORT
" : "(8) SHELL SORT" : "(9)
RESERVED" : "Type number of
choice"
150 ACCEPT AT(21,23)VALIDATE
(DIGIT)SIZE(2)BEEP:K :: IF K
<1 OR K>10 THEN 150
160 DISPLAY AT(24,1):"Size o
f array? (10-100)" :: ACCEPT
AT(24,25)VALIDATE(DIGIT)SIZ
E(3):G :: IF G<1 OR G>100 TH
EN 160
170 ON K GOSUB 230,300,430,5
00,550,650,850,910,25000 ::
DISPLAY AT(22,1):W;"SWAPS":C
;"COMPARISONS" :: C,W=0
180 DISPLAY AT(24,1):"Choose
(1)Menu or (2)Resort" :: AC
CEPT AT(24,7)VALIDATE("12")S
IZE(1):Q :: IF Q=1 THEN 130
190 DISPLAY AT(24,1):"Change
which position? 0" :: ACCEP
T AT(24,24)VALIDATE(DIGIT)SI
ZE(-3):P :: IF P=0 THEN 210
ELSE IF P<1 OR P>6 THEN 190
```

```
200 DISPLAY AT(24,1):"Change
to?" :: ACCEPT AT(24,12)SIZ
E(3):A$(P):: X=P :: GOSUB 10
200 :: GOTO 190
210 DISPLAY AT(22,1):" " " "
:: GOSUB 1000 :: N=6 :: ON
K GOSUB 240,310,440,510,560,
660,860,920,25000 :: DISPLAY
AT(22,1):W;"SWAPS":C;"COMPA
RISONS" :: C,W=0 :: GOTO 180
220 REM #BUBBLESORT#
230 CALL CLEAR :: GOSUB 980
240 FOR J=2 TO N :: C=C+1 ::
IF A$(J)>A$(J-1)THEN 260
250 T$=A$(J):: GOSUB 1050 ::
A$(J)=A$(J-1):: X=J :: GOSU
B 1020 :: A$(J-1)=T$ :: X=J-
1 :: GOSUB 1020 :: W=W+1 ::
F=1
260 NEXT J :: C=C+1 :: IF F=
0 THEN 280
270 W=W+1 :: F=0 :: W=W+1 ::
N=N-1 :: GOTO 240
280 RETURN
290 REM #SHAKERSORT#
300 CALL CLEAR :: GOSUB 980
310 W=W+1 :: L=1 :: W=W+1 ::
R=N
320 W=W+1 :: F=0 :: FOR J=L
TO R-1 :: C=C+1 :: IF A$(J)<
=A$(J+1)THEN 340
330 T$=A$(J):: GOSUB 1050 ::
A$(J)=A$(J+1):: X=J :: GOSU
B 1020 :: A$(J+1)=T$ :: X=J+
1 :: GOSUB 1020 :: W=W+1 ::
F=1
340 NEXT J :: C=C+1 :: IF F=
0 THEN 410
350 W=W+1 :: R=R-1 :: C=C+1
:: IF R=L THEN 410
360 W=W+1 :: F=0 :: FOR J=R
TO L+1 STEP -1 :: C=C+1 :: I
F A$(J)>=A$(J-1)THEN 380
370 T$=A$(J):: GOSUB 1050 ::
A$(J)=A$(J-1):: X=J :: GOSU
B 1020 :: A$(J-1)=T$ :: X=J-
1 :: GOSUB 1020 :: W=W+1 ::
F=1
380 NEXT J :: C=C+1 :: IF F=
0 THEN 410
390 W=W+1 :: L=L+1 :: C=C+1
:: IF L=R THEN 410
400 GOTO 320
410 RETURN
420 REM #SWAPSORT#
430 CALL CLEAR :: GOSUB 980
440 FOR J=1 TO N-1 :: W=W+1
:: R=J :: FOR JJ=J+1 TO N ::
C=C+1 :: IF A$(R)<=A$(JJ)TH
EN 460
```

```

450 W=W+1 :: R=JJ
460 NEXT JJ :: C=C+1 :: IF R
=J THEN 480
470 T=A$(J):: 60SUB 1050 ::
A$(J)=A$(R):: X=J :: 60SUB
1020 :: A$(R)=T$ :: X=R :: 6
0SUB 1020
480 NEXT J :: RETURN
490 REM ===SHUTTLE SORT=====
500 CALL CLEAR :: 60SUB 980
510 FOR J=1 TO N-1 :: FOR JJ
=J TO 1 STEP -1 :: C=C+1 ::
IF A$(JJ)<A$(JJ+1)THEN 530
:: T=A$(JJ):: 60SUB 1050 ::
A$(JJ)=A$(JJ+1):: X=JJ :: 6
0SUB 1020
520 A$(JJ+1)=T$ :: X=JJ+1 ::
60SUB 1020 :: NEXT JJ
530 NEXT J :: RETURN
540 REM ===EASY SORT=====
550 CALL CLEAR :: 60SUB 980
560 W=W+1 :: D=1
570 W=W+1 :: D=2#D :: C=C+1
:: IF D<N THEN 570
580 W=W+1 :: D=INT(D/2):: C=
C+1 :: IF D=1 THEN 630
590 FOR J=1 TO N-D :: W=W+1
:: Y=J
600 W=W+1 :: Z=Y+D :: C=C+1
:: IF A$(Y)<A$(Z)THEN 620 ::
A$(Y)=A$(Z):: X=Y :: 60SUB 10
20 :: A$(Z)=T$ :: X=Z :: 60S
UB 1020
610 W=W+1 :: Y=Y-D :: C=C+1
:: IF Y>1 THEN 600
620 NEXT J :: GOTO 580
630 RETURN
640 REM =QUICKSORT=
650 CALL CLEAR :: 60SUB 980
660 W=W+1 :: L=1 :: W=W+1 ::
R=N :: W=W+1 :: T=1
670 T=A$(INT((L+R)/2)):: 60
SUB 1050 :: W=W+1 :: J=L ::
W=W+1 :: JJ=R
680 C=C+1 :: IF A$(J)>=T$ TH
EN 710
690 W=W+1 :: J=J+1
700 GOTO 680
710 C=C+1 :: IF A$(JJ)<=T$ T
HEN 730
720 W=W+1 :: JJ=JJ-1 :: GOTO
710
730 C=C+1 :: IF A$(J)<>A$(JJ
)THEN 760
740 C=C+1 :: IF J>=JJ THEN 7
60
750 W=W+1 :: J=J+1 :: GOTO 7
30
760 C=C+1 :: IF J>=JJ THEN 7

```

```

80
770 W=W+1 :: H=A$(J):: A$(J
)=A$(JJ):: X=J :: 60SUB 1020
:: A$(JJ)=H$ :: X=JJ :: 60S
UB 1020 :: GOTO 680
780 W=W+1 :: J=J+1 :: W=W+1
:: JJ=JJ-1 :: C=C+1 :: IF J>
=R THEN 800
790 W=W+1 :: T=T+1 :: W=W+1
:: ST(T,0)=J :: W=W+1 :: ST(
T,1)=R
800 W=W+1 :: R=JJ :: C=C+1
:: IF L<R THEN 670
810 C=C+1 :: IF T=0 THEN 830
820 W=W+1 :: L=ST(T,0):: W=W
+1 :: R=ST(T,1):: W=W+1 :: T
=T-1 :: GOTO 670
830 RETURN
840 REM ===RESORT SORT=====
850 CALL CLEAR :: 60SUB 980
860 FOR J=2 TO N :: C=C+1 ::
IF A$(J)>A$(J-1)THEN 900
870 T=A$(J):: 60SUB 1050 ::
FOR L=J-1 TO 1 STEP -1 :: A
$(L+1)=A$(L):: X=L+1 :: 60SUB
1020
880 C=C+1 :: IF A$(L-1)>=T$
THEN 890 :: A$(L)=T$ :: X=L
:: 60SUB 1020 :: GOTO 900
890 NEXT L
900 NEXT J :: RETURN
910 REM =SHELLSORT=
920 CALL CLEAR :: 60SUB 980
930 W=W+1 :: M=N
940 W=W+1 :: M=INT(M/3)+1
950 FOR J=1 TO N-M :: FOR JJ
=J TO 1 STEP -M :: C=C+1 ::
IF A$(JJ)<A$(JJ+M)THEN 970
:: T=A$(JJ):: 60SUB 1050
960 A$(JJ)=A$(JJ+M):: X=JJ
:: 60SUB 1020 :: A$(JJ+M)=T$
:: X=JJ+M :: 60SUB 1020 :: N
EXT JJ
970 NEXT J :: C=C+1 :: IF M>
1 THEN 940 :: RETURN
980 REM =RENEW ARRAY=
990 FOR J=1 TO 6 :: A$(J)=B$
(J):: X=J :: M=A$(J):: 60SUB
1020
1000 NEXT J :: N=6
1010 DISPLAY AT(24,1):"A to
abort P to pause" :: RETUR
N
1020 RR=X
1030 IF RR>20 THEN RR=RR-20
:: GOTO 1030
1040 CC=1-(X>20)#5-(X>40)#5-
(X>60)#5-(X>80)#5 :: DISPLAY
AT(RR,CC):A$(X):: W=W+1 ::
60SUB 1060 :: RETURN

```

```

1050 DISPLAY AT(22,14):"T$="
;T$ :: W=W+1 :: 60SUB 1060
:: RETURN
1060 CALL KEY(3,K1,SS):: IF
SS=0 THEN 1090
1070 IF K1=65 THEN 130
1080 CALL KEY(3,K2,SS):: IF
SS<1 THEN 1080
1090 RETURN

Don't try timing these
sorts, because the screen
display distorts the speed.
Option 9 has been left open
so that you can add your own
favorite sort routine, in
the same format, starting in
line 25000.

These routines may not be
the most efficient forms,
and their names may not be
correct. If you know better
ones, let me know!

100 !BASKET WEAVING by Jim P
eterson
110 CALL CLEAR :: W=11 :: T=
2 :: CH$="ASASASASASASASFF
FFFF00FF00FF" :: CALL CHAR
(142,CH$):: CALL COLOR(14,2,
W,13,2,W):: CALL SCREEN(W)
120 CALL HCHAR(1,1,143,768):
CALL CHAR(134,CH$):: CH=14
2
130 FOR C=1 TO 31 STEP T ::
FOR R=1 TO 23 STEP T :: CALL
HCHAR(R,C,CH):: NEXT R :: F
OR R=24 TO 2 STEP -T :: CALL
HCHAR(R,C+1,CH):: NEXT R ::
NEXT C
140 CH=ABS((CH=142)#135+(CH=
134)#143):: RANDOMIZE :: T=I
NT(3#RND+2)
150 FOR R=1 TO 23 STEP T ::
FOR C=2 TO 32 STEP T :: CALL
HCHAR(R,C,CH):: NEXT C
160 FOR C=31 TO 1 STEP -T ::
CALL HCHAR(R+1,C,CH):: NEXT
C :: NEXT R :: CH=CH-1 :: W
=INT(14#RND+3):: T=INT(3#RND
+2)
170 IF CH=134 THEN CALL COLO
R(13,2,W):: GOTO 130 ELSE CA
LL COLOR(14,2,W):: GOTO 130

The following routine will
create a D/V80 file named
GRAPHPAGE, to be loaded into
TI-Writer as a 77x57 grid
numbered along the left and

```

```

bottom. Arrow keys can then
be used to create a line
graph of asterisks or what-
ever, annotated with text as
desired.
100 OPEN #1:"DSK1.GRAPHPAGE"
,OUTPUT :: PRINT #1:TAB(4);R
PT$(" ",75):: FOR J=1 TO 57
:: J$=STR$(J)
105 IF J<10 THEN J$=" "&J$
110 PRINT #1:J$&RPT$(" ",38
)&"I" :: NEXT J
120 FOR T=1 TO 2 :: PRINT #1
:" " :: FOR J=1 TO 77 :: J$
=STR$(J)&" " :: PRINT #1:SE6
$(J$,T,1):: NEXT J :: PRINT
#1 :: NEXT T :: CLOSE #1

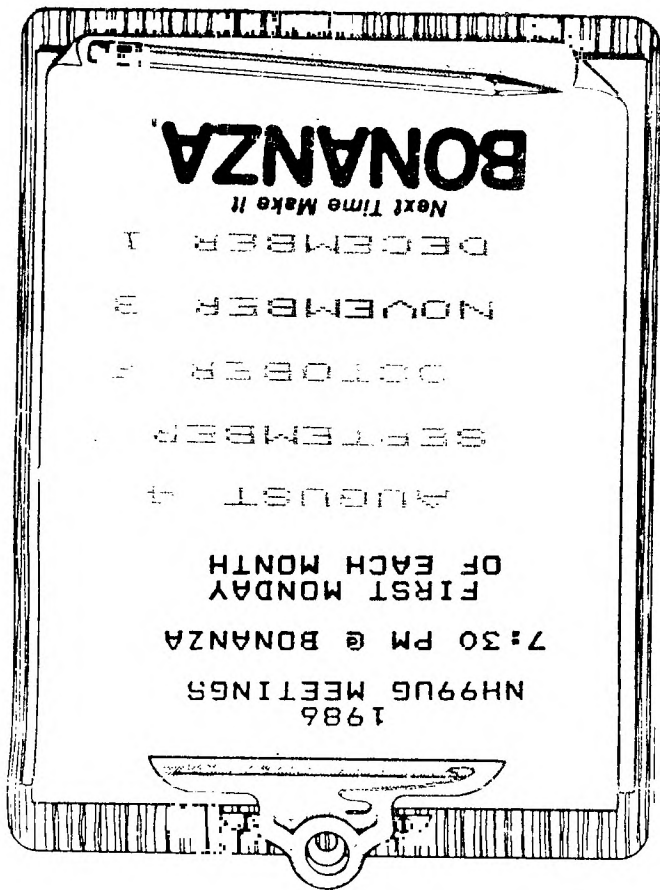
! TO PRINT A HANDY REFERENC
E CHART OF ASCII TO HEX CODE
- MODIFIED FROM READING-BERK
S AUG 85
90 OPEN #1:"PIO" :: PRINT #1
:CHR$(27);CHR$(77);CHR$(5)
100 FOR X=32 TO 63 :: FOR Y=
X TO X+64 STEP 32 :: CALL CH
ARPAT(Y,Y$):: PRINT #1:Y;" "
;CHR$(Y);" " ;Y$:: NEXT Y ::
PRINT #1:" " :: NEXT X

100 CALL CLEAR :: CALL MAGNI
FY(2):: RANDOMIZE :: DISPLAY
AT(3,2):"TIGERCUB SPEED TYP
ING TEST" :TAB(12);"SPEED"
:: T=10
110 DISPLAY AT(5,18):100-T
:: X=INT(26#RND+65):: CALL SP
RITE(#1,X,2,96,120):: FOR D=
1 TO T :: CALL KEY(3,K,ST)::
ON (K=X)+2 GOTO 120,130
120 T=T-1 :: GOTO 110
130 NEXT D :: T=T+1 :: GOTO
110

The U6 newsletters are
full of good editorials,
reminding people that they
had better pay for their
freeware or there won't be
anymore. I totally agree
with that - but I can't help
thinking that if there had
been as much emphasis on
paying for commercial
software instead of pirating
it, there would still be a
lot more good programmers
supporting the TI!

MEMORY FULL
Jim Peterson

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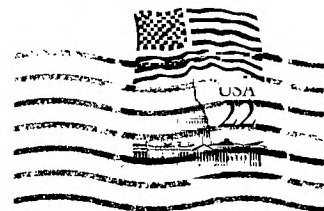
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