

NEW HAMPSHIRE 99'ERS
JANUARY 1985
NEWSLETTER



NHUG NEWSLETTER - PO BOX 7199 HEIGHTS STATION - CONCORD, NH

- VOL.3 NO.1

<<RANDOM RAMBLINGS>>

From the orders which we are receiving it seems as though the TI EDITOR/ASSEMBLER was a popular Christmas gift. For those of you who are ordering FORTH and, in fact, any software from the club... PLEASE, back them up immediately upon receipt! All software which we distribute (whether on cassette or disk) has been catalogued and tested. This takes extra time on our part, but saves us (and you) time and postage in the long run. In the case of FORTH, it is quite easy for the novice to seemingly destroy the disk! Please read your manual and keep your master disk write-protected and in a safe place.

For shipments over 8 oz. (7 oz. come February) we prefer using UPS over the Postal Service because: it's cheaper; it's safer; it's insured. For those of you with PO boxes, we need your street address in order to ship UPS. Otherwise, we will have to ship PARCEL POST.

Up until now, we have kept an inventory of our "most wanted" software/firmware. Having this ready inventory has enabled us to ship your orders (or have them available at the meetings) immediately upon receipt of your requests. We have only one copy of FORTH left for sale. Because we feel that most of TI public domain software has reached most of you we will no longer keep them in stock. What that means is that it will take a little longer to get your copies. Please, if you would like to purchase software at the meetings... GIVE US ADVANCED NOTICE so we can have them ready! (The FORTH manual is too costly to photocopy singly. If you intend to purchase it in the near future, please, reserve it NOW.)

The mail at the Concord PO Box is picked up only once a week, at best. If you are in a rush, please send your correspondence to our LIAISON, Helene LaBonville - 121 Camelot Drive RFD5 - Bedford, NH 03102.

We would like to thank all those who have volunteered to help update the library. It is coming together quite nicely. Special thanks go to the Lehigh Valley Computer User Group (Allentown, PA) and especially to Dave Hendricks for supplying us with additional public domain software.

Hello cassette users! Are you there? Are you interested in our library software? We have several cassettes prepared, but you haven't responded!

According to Bill Cagle (Hoosier Users Group - Indianapolis) the TI DOOM series is written in FORTH. If you have this game, you might want to look at them with the FORTH-EDITOR and study the programming style and methods.

And, from Winston Yancey of the Atlanta 99'er Computer User Group... For those interested in amateur radios, there is a "NET" for TI owners. It is KDSLR (Bob). The net meets every Wednesday night on 3.927 MHz at 10:00 PM EST.

If any of you are interested in a tour of a large insurance company (in the Manchester area) to view their mainframes "at work" please contact: Ken Geddes - 186 Flint St - Manchester (625-9419) after 6:00 PM.

Again, we hope you all received some TI goodies for Christmas and we hope that you will share your opinions of them in future issues.

<<BULLETIN BOARD>>

N.B. UNLESS OTHERWISE STATED, a firm's inclusion in the BULLETIN BOARD does not constitute an endorsement by the club. All information in The NHUG NEWSLETTER is, for the most part, the fruits of the labors of amateurs, therefore, we cannot guarantee its accuracy.

FOUNDATION COMPUTING - 74 Clair Way - Tiburon, CA 94920 (415/388-3840). The long awaited 80-column card is ready - or is it? We have received a brochure from FOUNDATION announcing the 80-column card via the introduction of the Z80A Card. The Z80A card comes with a Proprietary operating system that is compatible with the latest version of standard CP/M, version 2.2. It contains a 4 Mhz Z80A MicroProcessor, 64 Kb of High Speed Dynamic RAM, Four Channels of Counter/Timer, Two RS232 Serial Ports, Two Bidirectional Paralled Ports, and Double Density Floppy Disk Controller... \$350 + shipping. The only mention made of the 80 column card was that as of 2/1/85 its Price will be \$310+, but, if you Purchase a Z80A Card on/or before 2/1, they'll sell you an 80 column card for \$160+. And, if you don't buy your 80 column card today you get a coupon reserving one for you at this low Price. Allow 3-6 weeks for shipping. Frankly, we have reservations. Nowhere in the literature does it list minimum requirements, i.e. does the Z80A card require the 80 column card, does the 80 column card require a monitor, why no literature on the 80 column card, why so long for shipping? If you are interested in these Products... ask questions!!!

S.O.S. PUBLISHERS - 21777 Ventural Blvd #203 - Woodland Hills, CA 91364 (618/704-0145). According to Dave Hendricks of the Lehigh Valley Computer Group, S.O.S. Publishers is Preparing a new mini-magazine called MINI-MAG 99. Exclusively for 99'ers, MINI-MAG will include feature articles, new Product reviews, book reviews, etc. Write to them to receive a free issue.

SOFTWARE CAROUSEL - PO Box 55561 - Valencia, CA 91355 (803/254-4141). SC has forwarded us a demo version of "Graphics Code Generator" which will allow us to see the Program "in action" while listening to a fully synchronized sound track that explains exactly how it works. Anyone interested in including graphics in their Programs must see this! We hope you will attend the January 23rd meeting @ Pablo's where it will be "showcased". The entire demonstration takes 7-1/2 minutes and requires a cassette recorder and the Extended Basic module. If you are unable to attend but would like to view our copy of the demo, send (after 1/23) \$2.00 (to cover Postage and handling) to "borrow" the tape for 10 days. We applaud SOFTWARE CAROUSEL for allowing the TI community to Preview GCG in this unique fashion. Group discounts are available for the finished Product.

GRAPHX - PO Box C568 - Clarence Street - Sydney, NSW Australia 2000. RL Davis has forwarded the club a 48 Page copy of the GRAPHX User Manual which gives a full explanation of the many functions of the Program. GRAPHX will allow you to create high resolution graphics screens with your 99/4A which you can save to disk, Print or use in your own Assembler Language Programs. It is available in 3 versions: MINI-MEM, E/A, XBASIC. All versions require 32K MEMORY, at least one DISK DRIVE, and a JOYSTICK, and optionally the RS232 interface and a EPSON MX80 or compatible Printer. For more information send \$1.50 to cover Postage and handling (includes return Postage) to "borrow" our manual for up to 14 days.

WEBER & SONS, INC. - PO Box 1084 - Adelphia, NJ 07710 (600/225-0044). Weber specializes in a complete line of filing systems for all your disks. We are grateful to them for sending the club samples of their disk Jacket Pocket with inserts, KANGAROO POCKETTE. The club uses their DISK MAILERS and have just ordered a DISK FILE. You can inspect these items at the meetings. We have several copies of their ads which list their

Products.

TRITON - PO Box 8123 - San Francisco, CA 94128 (800/227-6900).

CAUTION! According to several members, this firm will NOT accept orders for less than \$20 (not even \$19.95!).

HOME COMPUTER MAGAZINE, VOLUME 4 NO. 5 IS IN! According to Publisher Gary Kaplan, they are "reducing their stated Publication frequency to ten times a year. Present subscribers will still receive the correct number of issues they are entitled to based on their original subscription order. Renewals and new subscriptions entered Prior to the cutoff date for Publication of our next issue (Vol. 5 No. 1) will also be entitled to receive the magazine on this same 12-issue basis until expiration." This issue contains reviews of SUPER-SKETCH, AUTO SPELL CHECK, and MIDNITE MASON along with several Programs to key in and several Pages of LETTERS TO THE EDITOR all raving about the new format. At the rate they have been Publishing, most subscriptions should expire in 1988! Nuff said.

KCR Corporation - PO box 8128 - Huntington, WV 25705-8128 (304/523-7336). KCR sent the newsletter, ALIVE AND WELL, which we have reprinted for your viewing. It also contained their ads for R. Roy's (not our own illustrious Prez) WORDMASTER a word Processor which requires only Extended Basic (Disk Drive and 32K expansion is optional). The 16K version Provides about 5K text buffer. It will interface to DATAMASTER (Projected release date 2/85) for mail merge. DATAMASTER is a database manager with spreadsheet capabilities. It also requires only Extended Basic. DISKMASTER and DISKLABELER are due for release on 2/85. With them you may catalog all disk files by filename or diskname and make your own label with up to twenty-five filenames. FASTFORTH is a derivative of the Public domain TI-FORTH, and is functionally identical. The entire disk loads in less than six seconds. Disk only is \$7.95 Postpaid. WORDMASTER is \$45 Postpaid and there were no set Prices on the others.

K-MART - K-MART PLAZA - South Willow Street - Manchester, NH (668-7302 appliances). K-MART is currently having a closeout sale on the GE Computer Program Data Recorder (#3-5158B). This is an excellent companion to the 99/4A and features tone control and a tape counter... \$22. The Paperwork includes an offer to Purchase the single cassette cable for \$6.50. We use one and have had no trouble. If you (members only!) would like one and can't get to a K-MART send \$25 and we will ship one Posthaste. This is a limited offer! Also they have restocked the GEMINI VG306 Joystick "Y" Adapter... \$5.97.

<<WRAP-UP>>

I have neglected to introduce a new member-contributor, Jim Jagielski of Sanbornville. We have not yet had the Pleasure of meeting Jim, but we know that he has owned his TI for nearly three years, he has an expanded system (48K), he bought a computer for education and entertainment, and he was the first to order FORTH from us. We know you'll enjoy his article, MY FORTH CRAYON, which appears in this issue, and we hope that this is just the first of many fine articles from Jim. Thanks!

I'm sure I've forgotten something or someone else, Please forgive me, but space and memory is running out! I love it!

Finally, a reminder: Our meetings are generally held on the last Wednesday of the month. NOT SO THIS MONTH! The next meeting will be held in the function room of PABLO'S at 7:30 PM on WEDNESDAY, JANUARY 23rd. The February meeting is scheduled for the 27th.





MORE ON CENTERING

After reading the article in the July newsletter on centering you probably got up your courage to write some programs or routines using the TAB function to center numbers or text and got strange results. To understand why numbers and strings don't line up when given the same tabs, you have to know that the computer treats them differently. In the first place, positive numbers have the space to their immediate left reserved for an imaginary plus (+) sign. Tabbing both positive and negative numbers 6 spaces puts the positive number at position 8 and the minus sign of the negative number at position 7 with the number at position 8. Both + and - numbers have the space to their immediate right reserved for a space character (ASCII 32). Strings (and numbers converted to strings) do not have spaces reserved. Converting 5 to STR\$(5) gets rid of the spaces to the left and right and allows more printing flexibility.

To further complicate matters, the screen and the TI/EPSON printer can handle the tabbed lines differently in some cases. To experiment with tabbing numbers and strings, enter and run the following program, changing line 360 to match your printer, or deleting lines 330-390 if you're not using a printer.

Also note that a better way to line up decimal points is not the way shown in the newsletter but with PRINT USING and image statements in Extended Basic.

```

100 REM *****
110 REM * TAB TEST TUTORIAL*
120 REM * BY R. J. BAILEY *
130 REM * 68A CHURCH STREET*
140 REM * GONIC, N.H. 03867*
150 REM *****
160 CALL CLEAR
170 A=5
180 B=-4
190 PRINT TAB(6);"7890"
200 PRINT TAB(6);A
210 PRINT TAB(6);B
220 PRINT TAB(6);STR$(A)
230 PRINT TAB(6);STR$(B)
240 PRINT TAB(6);"A=";A
250 PRINT TAB(6);"B=";B
260 PRINT TAB(6);"A="&STR$(A)
270 PRINT TAB(6);"B="&STR$(B)
280 PRINT TAB(6);A;A
290 PRINT TAB(6);B;B
300 PRINT TAB(6);STR$(A);STR$(A)
310 PRINT TAB(6);STR$(B);STR$(B)
320 PRINT TAB(6);STR$(A)&STR$(A)
330 REM *****
340 REM *OK YOUR PRINTER?*
350 REM *****
360 OPEN #2:"RS232.BA=2400.DA=8"
370 GOSUB 450
380 C=27
390 Z=2
400 GOSUB 450
410 END
420 REM *****
430 REM *PRINT SUB*
440 REM *****
450 PRINT #Z:TAB(27);"AVAILABLE=";
STR$(200);TAB(27+24-LEN(STR$(158))
);"USED=";STR$(158)
460 PRINT #Z:TAB(C);"AVAILABLE=";S
TR$(200);TAB(C+24-LEN(STR$(158)));
"USED=";STR$(158)
470 PRINT #Z:TAB(C);"*****
=====*"
480 RETURN

```

I have over 600 non-copyrighted Programs in my library. I will Process your choices onto cassette, disk, or hardcopy for \$1.00 each and copy unit. Comparable Programs may be exchanged. For more info, see me at the next meeting or contact me at:

JEROME G. BELAIR
672 HUSE ROAD #38
MANCHESTER, NH 03103
603-669-9498

Please enclose a SASE for written info

For Sale:

Brand new BASF disk drive set up for T.I. . 568D, 40 track bare drive for PEB. \$125.00 call 603-332-7855 ask for Richard J. Bailey

TI99/4A COMPLETE SYSTEM. Partial listing includes: Peripheral Expansion with 48K memory, RS232 card, P-card + Pascal software, 2 DS/DD disk drives, TI Impact Printer, direct connect MODEM, Speech Synthesizer, MultiPlan, TI Writer, Extended Basic, Editor/Assembler, Terminal Emulator II, Disk Manager 2, Plus, Plus, Plus. For more information, please contact:

LAMAR WASHINGTON
235 Old Rt 28
Barnstead, NH 03218
603-435-8451

ASKING
\$1900.

<<FOR SALE>>

TI RS232 CABLE
Designed for use with Okidata Printers but also works with Epson.....\$25
Call: Helene LaBonville
603/472-3369

MY FORTH CRAYON

By Jim Jagielski



This Forth program utilizes some of Forth's graphic capabilities. This particular program resides in Screens #22 and 23, but it doesn't matter what screens this program is typed in. After it is typed in, load it in so that it can be compiled by typing: n (# of the starting screen) LOAD . After the program is compiled and the cursor is on the screen, you can proceed. The screen is now in what Forth calls SPLIT mode (one third of the screen or 8 lines is devoted for text). The drawing cursor can be controlled by joystick #1 or the left side of the keyboard (E, X, S, D, W, R, C, Z - up, down, left, right, up-left, up-right, down-right, down-left, respectively). By pressing Q on the fire button on joystick #1, you can enter the selection mode.

NOTE: If you are going to use the Joystick you must take off ALPHA LOCK.

Selection mode:

1) enables you to change colors from 0-transparent to 9 light red.

0 - Transparent	1 - Black	2 - Medium Green
4 - Dark Blue	5 - Light Blue	6 - Dark Red
7 - Cyan	8 - Medium Red	9 - Light Red

2) On/Off Draw mode:

1) ON draw mode
2) OFF draw mode (Allow you to move cursor without creating lines or dots.)

3) MUST PRESS SHIFT 3 (Extra Precaution so that you don't unintentionally erase the screen.)

Erases Screen.

4) Quit (Aborts Program)

5) Change Plotting Speed of dots.

1) Fast
2) Moderate
3) Slow

6) Erase Mode (Allows you to erase dots that are Presently on the screen.)

NOTE: You must be also be in Draw Mode to be in Erase Mode. To leave Erase Mode enter selection #1 (On/Off Draw Mode) and then Press (1) for On Draw Mode.

This program does have any provisions for Saving and Loading drawings, but if anyone is interested in writing an addition to this program, Please be my guest.

I hope you enjoy this program, and Happy Drawing.

SCR #22

```

0 ( MY FORTH CRAYON PROGRAM- BY JIM JAGIELSKI )
1 BASE->R HEX SPLIT 80 DCOLOR ! 8 0 GOTOXY ." PLEASE WAIT... "
2 3800 ' SATR 3800 SSDT 0000 1010 7C10 1000 21 SPCHAR
3 DECIMAL RANDOMIZE 0 VARIABLE PSPD 1 VARIABLE PMODE
4 120 VARIABLE X 53 VARIABLE Y ; SPR X @ Y @ 14 33 1 SPRITE ;
5 : SPUT X @ Y @ 1 SPRPUT PSPD @ 0 DO LOOP
6 PMODE @ 1 AND IF X @ 3 + Y @ 4 + DOT ENDIF ;
7 : X+1 1 X +! SPUT ;
8 : Y+1 Y @ 123 < IF 1 Y +! SPUT ENDIF ;
9 : X-1 -1 X +! SPUT ;
10 : Y-1 Y @ 0 > IF -1 Y +! SPUT ENDIF ;
11 0 VARIABLE XSTAT 0 VARIABLE YSTAT
12 : UP YSTAT @ 4 = IF Y-1 ENDIF ;
13 : DOWN YSTAT @ 252 = IF Y+1 ENDIF ;
14 : RIGHT XSTAT @ 4 = IF X+1 ENDIF ;
15 : LEFT XSTAT @ 252 = IF X-1 ENDIF ; -->

```

SCR #23

```

0 ( MY FORTH CRAYON PROGRAM CONTINUED ... )
1 : SELECT CLS 1 0 GOTOXY BEEP ." ENTER YOUR SELECTION: " CR
2 ." 1. CHANGE COLOR " CR ." 2. ON/OFF DRAW MODE " CR
3 ." SHIFT 3. CLEAR SCREEN " CR ." 4. QUIT " CR
4 ." 5. CHANGE PLOTTING SPEED " CR ." 6. ERASE MODE " ;
5 : 7DUP DUP DUP DUP DUP DUP DUP ;
6 : CHOOSE KEY CLS 7DUP 52 = IF ABORT ENDIF DROP 35 = IF SPLIT
7 ENDIF DROP 50 = IF 0 0 GOTOXY ." 1. DRAW MODE ON " CR
8 ." 2. DRAW MODE OFF " KEY CLS 49 = IF 1 PMODE ! DRAW
9 ELSE 0 PMODE ! ENDIF ENDIF 53 = IF 0 0 GOTOXY ." 1. FAST "
10 CR ." 2. MODERATE " CR ." 3. SLOW " KEY CLS 49 - 750 *
11 PSPD ! ENDIF 49 = IF 1 0 GOTOXY ." COLOR? (0-9) " KEY
12 48 - 16 * HEX DCOLOR ! CLS DECIMAL ENDIF 54 = IF UNDRAW
13 ENDIF ;
14 : JSCAN SPR CLS BEGIN 1 JOYST YSTAT ! XSTAT ! 18 = IF SP!
15 SELECT CHOOSE ENDIF UP DOWN RIGHT LEFT 0 UNTIL ; JSCAN R->BASE

```

This FORTH program puts a real-time clock on the monitor screen. STOPCLOCK will stop the clock. It uses a memory location that interferes with the MON command. To load it automatically add "32 LOAD" after the menu on screen #3. Program courtesy of Cincinnati Dayton Users Group, via "ALIVE AND WELL" (KCR Corporation)

SCR #32

```

0 ( clock: to start enter hour 1 - 24 and minute and TIME )
1 0 VARIABLE XX 8 ALLOT 58 XX 2 + C! 58 XX 5 + C! 0 VARIABLE TT
2 : *UPDATE 1 TT +! TT @ 59 > IF 0 TT !
3 XX 7 + 1 OVER C@ + DUP 58 < IF SWAP C! ELSE DROP 48 SWAP C!
4 XX 6 + 1 OVER C@ + DUP 54 < IF SWAP C! ELSE DROP 48 SWAP C!
5 XX 4 + 1 OVER C@ + DUP 58 < IF SWAP C! ELSE DROP 48 SWAP C!
6 47 TT !
7 XX 3 + 1 OVER C@ + DUP 54 < IF SWAP C! ELSE DROP 48 SWAP C!
8 XX 1 + 1 OVER C@ + DUP 58 < IF SWAP C! ELSE DROP 48 SWAP C!
9 XX DUP C@ 1 + SWAP C! ENDIF XX C@ 50 = XX 1 + C@ 52 = + 2 = IF
10 48 48 XX C! XX 1+ C! ENDIF ENDIF ENDIF ENDIF ENDIF
11 XX 22 8 VMBW ENDIF ;
12 : TIME 10 /MOD 48 + XX 3 + C! 48 XX 6 + C! 48 XX 7 + C!
13 48 + XX 4 + C! 10 /MOD 48 + XX C! 48 + XX 1+ C!
14 INTLNK @ ' *UPDATE CFA ISR ! -31804 ! ;
15 : STOPCLOCK 0 -31804 ! ;

```

TIPS FROM THE TIGERCUB

#17

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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.

My new catalog #5 is now available for \$1.00, which is deductible from your first order. It contains over 130 programs in Basic and Extended Basic at only \$3.00 each (plus \$1.50 per order for cassette, packing and postage, or \$3.00 for diskette, PP&M).

The entire contents of Tips from the Tigercub Nos. 1 through 14, with ~~more~~ more added, are now available as a 3.5" disk of 50 programs, routines and files for only \$15.00 postpaid.

Nuts & Bolts is a diskfull of 100 (that's right, 100!) XBasic utility subprograms in MERGE format, ready for you to merge into your own programs. Contents include 13 type fonts, 14 text display routines, 12 sorts and shuffles, 9 data saving and reading routines, 9 wipes, 8 pauses, 5 music, 2 protection, etc., etc., all for just \$19.95 postpaid!

And if you send an order before 31 December 1984 and mention your user group, you may take a 10% discount.

My 28-Column Converter, published in Tips #15, has a bug which causes a line to disappear if the wrap-around causes it to begin with a period and you are using the formatter option. Here is the fix -

Change line 300 to read: 300 FOR N=1 TO 5 :: READ CH#.R#

Change line 260 to read:
260 DATA @.(,&),^,*,.,\ In other words, your DATA items will be the "at" sign above the 2, the left

brace on the front of the F key, the ampersand on the 7 key, the right brace on the front of the G, the carat sign above the 6, the tilde on the front of the W, the asterisk above the 8, the whatsit? on the front of the A, the period, and the backslash on the front of the Z.

A couple of other changes will automatically turn off the automatic fill and adjust, and turn it back on. At the end of line 180, add :: PRINT #2:".NF" and change line 270 to NEXT J :: PRINT #2:".F1;AD;";

:: CLOSE #2 :: CLOSE #1 :: END

Now, as long as the text strings in your program don't contain those oddball characters, all should be well. However, the program has one more bug which is common to all 28-column converter programs, and for which I can find no really good fix. If a program line is exactly 60 characters long, the next program line will follow immediately after it instead of starting on the next line. So, load the file in the Editor mode and scan it before you print it. If any of you whiz kids (or whiz grandpas) can figure out a way to program around that problem, please let me know!

A challenge in Tips #9 was to write a 1-line XBasic program which would take only 70 seconds to scramble the numbers from 1 to 255 into a completely random sequence without duplication. Richard Mitchell, the editor of Super 99 Monthly, came up with an algorithm which is shorter than mine and runs about 10 seconds faster - but it sure does chew up a lot of memory!

```
1 DIM A(255),C(254):: RANDOM
1ZE :: CALL PEEK(-31808,b)::
IF B=0 OR A(B)=B THEN 1 ELS
E C(D)=B :: A(B)=B :: D=D+1
:: IF D=255 THEN END ELSE 1
```

And if you're not subscribing to Super 99 Monthly, you should be! It's only \$12 a year, and full of very useful programs, routines and tips. The address is Bytemaster Computer Services, 171 Mustang Street, Sulphur LA 70663.

Also be sure to get the National

Ninety-Niner from the 99ers Users Group Association (3535 So. H St. #93, Bakersfield CA 93304), also only \$12 a year. Their roster of writers is beginning to look like the Who's Who of the TI world.

Danny Michael has written an assembly language program which will dump a graphics screen to a dot matrix printer (Epson or Gemini, and probably others) in less than 50 seconds - and he's giving it away. Just send him an initialized disk in a diskette mailer with an address label back to you and enough return postage. His address is Route 9, Box 460, Florence AL 35630.

Please, can ANYONE tell me where I can buy diskette mailers at a decent price? The cheapest I have found are \$0.65 each for an 11" x 9" piece of cardboard!

Somebody said they liked my Alphabet Song in the last Tips, and somebody else wanted some more routines for the speech synthesizer, so I put it all together and here's what I came up with. If you can type the alphabet without a mistake, you get an encore.

```
100 CALL CLEAR
110 PRINT "      ALPHABET S
ONG"
120 FOR J=1 TO 20
130 PRINT
140 NEXT J
150 PRINT "      by Ji
m Peterson": "Wait, please"
;
160 OPEN #1:"SPEECH",OUTPUT
170 DIM T$(26,2)
180 DATA 12,12,4,4,1,1,4,7,7
,8,8,10,10,10,10,12,4,4,7,8,
6,10,4,8,8,10
190 FOR J=1 TO 26
200 READ X
210 T$(J,1)="/"&STR$(X)&" "
&STR$(X/10*32)
220 T$(J,2)=CHR$(J+64)
230 NEXT J
240 T$(23,2)="DOUBLE"&"!"&"!
"&"U"
250 CALL CLEAR
260 PRINT "READY - TYPE THE
```

```

ALPHABET*
270 T=0
280 K2=64
290 CALL KEY(3,K,ST)
300 IF (ST<1)+(K<65)+(K>90)T
HEN 290
310 IF K<>K2+1 THEN 330
320 T=T+1
330 PRINT #1:T$(K-64,1):T$(K
-64,2)
340 CALL MCHAR(12,17,K)
350 K2=K
360 IF K<>90 THEN 290
370 IF T=26 THEN 390
380 GOTO 270
390 FOR K=65 TO 90
400 CALL MCHAR(12,17,K)
410 PRINT #1:T$(K-64,1):T$(K
-64,2)
420 NEXT K
430 PRINT #1:T$(1,1):"NOW IV
E":T$(3,1):"SAID MY":T$(5,1)
:"A B":T$(3,1):"SEE?"
440 PRINT #1:T$(8,1):"WONT Y
OU":T$(10,1):"COME AND":T$(1
2,1):"PLAY WITH":T$(1,1):"ME
"
450 GOTO 270

```

Terry Atkinson's routine to redefine the cursor has aroused some interest, so I fiddled around and came up with this version to change the cursor automatically to whatever character, normal or redefined, that you input.

```

100 !CURSOR CHANGER by Jim P
eterson
110 INPUT A$ :: A=ASC(A$)::
CALL CHARPAT(A,A$):: FOR J=1
TO 16 STEP 2 :: H$=SEB$(A$,
J,2):: CALL HEX DEC(H$,D)::
T=T+1 :: H(T)=D :: NEXT J ::
120 CALL INIT :: CALL LOAD(8
196,63,248)
130 CALL LOAD(16376,67,85,82
,83,79,82,48,8)
140 CALL LOAD(12288,H(1),H(2
),H(3),H(4),H(5),H(6),H(7),H
(8))
150 CALL LOAD(12296,2,0,3,24
0,2,1,48,0,2,2,0,8,4,32,32,3
6,4,9)
160 CALL LINK("CURSOR")!THAN
KS TO TERRY ATKINSON
170 SUB HEX_DEC(H$,D):: N=1
:: DEC=0

```

```

180 FOR J=1 TO LEN(H$):: A$=
SEB$(H$,LEN(H$)-J+1,1):: IF
ASC(A$)>58 THEN HT=ASC(A$)-5
5 ELSE HT=VAL(A$)
190 DEC=DEC+N*HT :: N=N*16 :
: NEXT J
200 IF DEC<>32768 THEN D=DEC
ELSE D=-165536-DEC)
210 SUBEND

```

And of course you can always color the cursor with CALL COLOR(0,5,11) or whatever colors you like.

Most folks don't seem to know, and some folks refuse to believe, that the Memory Expansion can't store strings. If you are one of the disbelievers, plug in your Memory Expansion and try this -

```

100 FOR J=1 TO 255 :: M$=M$&
CHR$(J):: NEXT J
110 DIM A$(100):: X=X+1 :: A
$(X)=M$ :: PRINT X :: GOTO 1
10

```

Now RUN that. On my console, I get MEMORY FULL when X=43 although the SIZE command shows I have 24399 bytes of program space free (in the Expansion) - but only 204 bytes of free stack (in the console). Without the Memory Expansion I can get X up to 51, and in Basic to 53.

This can be a serious handicap if you are running a program which reads in a large number of strings from DATA statements, or generates strings while running.

Of course, when the Memory Expansion is attached, the program and the numeric variables are stored in the Expansion, leaving all the console memory available for strings - but if you do not generate strings, the console memory remains unused, because numeric data cannot overflow into it!

If your program generates more numeric variables than the Memory Expansion can hold, you can however store them in the console by converting them to strings, using STR\$, and convert them back to numbers with VAL. This will allow you store an additional 700 to 900 or more numbers. Try

```

100 DIM A(3040),A$(1000):: F
OR X=1 TO 3000 :: A(X)=99 ::
PRINT X :: NEXT X
110 Y=Y+1 :: A$(Y)=STR$(99)
:: PRINT Y :: GOTO 110

```

When you get MEMORY FULL, type SIZE.

Dave Kenkenberger sent me a neat little routine, and I played around with it a bit. For you who are not football fans, I'd better explain that the Wave is performed at football stadiums when the cheerleaders get the fans to stand and cheer, one seating section at a time, across the stadium - and those drunks on the roof are usually out of sequence.

90 !THE WAVE by David Kenkenberger/modified by Jim Peterson

```

100 CALL CLEAR :: CALL SCREE
N(4)
110 A$="the wave!!"
120 DISPLAY AT(14,14-LEN(A$)/
2):A$
130 E$="press any key to sto
p"
140 DISPLAY AT(22,14-LEN(E$)
/2):E$
150 E$="999A3C3C3C3C2466"
160 A$="000018187E3D3C3C"
170 FOR CH=91 TO 118 :: CALL
CHAR(CH,A$):: M$=M$&CHR$(CH
):: NEXT CH :: FOR R=8 TO 12
:: DISPLAY AT(R,1):M$ :: NE
XT R
175 FOR T=1 TO 26 STEP 5 ::
DISPLAY AT(22,T):SEB$(M$,T,1
):: NEXT T
180 FOR CH=91 TO 123 :: CALL
CHAR(CH,E$):: CALL CHAR(CH-
5,A$):: CALL SOUND(-999,-7,5
$AND):: CALL KEY(3,K,ST):: I
F ST<>0 THEN STOP
190 NEXT CH :: GOTO 180

```

MEMORY FULL

Happy hackin'

Jim Peterson

Debugging the SUPER-BUGGER

By Dick Dunbar

As you may know by now if you acquired TI's Super-Bugger from the MSP 99 Program Library, the Super-Bugger has a bug. Perhaps more than one, but for now we'll concentrate on a specific bug.

If you try to assign dump or disassembly output to a disk file, it results in all of the available space on the disk specified being assigned to the file, but no recoverable data is written to it. This is caused by the PAB being destroyed when the file is assigned to disk. There is a solution to this problem. It involves modifying the object program file using the Editor/Assembler. The fix given below applies to uncompressed object files only.

As it happens, Navarone Industries is also distributing a version of this same debugger under the name Bug Fixer, and this version has the same bug. So we will provide the fix for both of these packages at the same time. The data to be changed is the same in both cases, but the address where it occurs differs between the two products.

To make this modification, you will have to enter the Editor and load your object file, then make the changes shown below. To do this, you must find the line containing the specified address (leftmost two columns below) and locate the specific data to be changed. Each line which we are concerned with begins with an "A" followed by a 4-digit hexadecimal address. Each data field starts with a "B" followed by 4 hexadecimal digits of data.

You must find the highest numbered line whose "A" address is equal to or lower than the address to be changed. Then count across the "B" fields in that line (remember to count in hexadecimal, and to count 2 for each "B" field) until you reach the specified address. You can double check that the field contains the specified original value as shown in the third column below. Then change the hexadecimal digits following the "B" to the value shown in the fourth column below.

In some cases, more than one "B" field may need to be changed on the same line. When you have changed all the "B" fields on a line, locate the check field at the end of the line. It will immediately follow the last "B" field on the line, and will contain a "7" followed by 4 hexadecimal digits. Change the "7" to an "8".

When you have made all the indicated changes, save the object file under a DIFFERENT NAME from the original, so that you have a backup in case you made a mistake. Here are the changes to be made:

Location	Original	Change	
SBUG	BFIX	Contents	To
----	----	-----	----
015A	015A	3F20	1020
12DE	12DC	7F00	5000
12F2	12F0	3F09	1009
132A	1328	7F20	5020
1342	1340	7F05	5005
1356	1354	7F00	5000
1366	1364	3F09	1009
137A	1378	7F00	5000
1382	1380	3F09	1009

A version of this correction was published originally in the MICROpendium. This is a modified version with the Navarone Bug Fixer correction added as well.

EUREKA!!

I've Found It!

by Ed Neu

At last . . . full screen editing of Extended BASIC programs! Through the efforts of other TI users around the country, I have found a way to use the versatile full-screen editors of either Editor/Assembler or TI WRITER to create, edit, and change XBASIC programs - and get them to run!

Shortly after I acquired TI-WRITER I discovered that I could "LIST" any program to disk and then edit it using TI-WRITER. That's because the 99/4A lists in a Display Variable 80 format - just what TI-WRITER uses. The problem has been, once the program existed in a DIS/VAR 80 format, there was no way to get it back into a form that XBASIC could run.

Thanks to John Hamilton of the Central Iowa 99/4A Users Group and the coverage given by Fred Hawkins of the Lehigh 99'er Computer Group, I can now go from DIS/VAR 80 files to something that will run.

The program below reads a DIS/VAR 80 format file, ignores lines that don't have line numbers, and converts it into a VAR 163 format. That's the format in which MERGED files in XBASIC exist. In other words, it converts from a TI-WRITER type file into a MERGE file which can be loaded and run in XBASIC.

The key is that it converts all program lines into trailing comments by inserting an "!" as the first character in every line. After the program is MERGED into memory every leading "!" must be removed. While this is a real pain, especially for a long program, it is necessary. This

editing step is the only way to get the XBASIC editor/translator to re-tokenize the line in memory into runnable code.

This inconvenience is tolerable for most jobs because of the tremendous power of TI WRITER or Editor/Assembler in working with programs. The search and replace capabilities of these editors makes large-scale program modifications a snap.

For instance, I have just revised a couple of library programs which would only run in BASIC so that they will run in XBASIC. This was a matter of using the full-screen editor to find character codes disallowed in XBASIC and doing a global find and replace.

It's also really simple to insert or delete large blocks of code. It may even be easier using this translator than using the "UNMERGE" utility program in our library. Just "LIST" pieces of programs to disk files, translate them to MERGE format, merge them together, remove the leading "!"'s, and you have a new program!

The next item is to find someone who is really clever and has discovered how to get into the XBASIC translator and get it to re-tokenize the lines of code without having to go in and manually remove those "!"'s. Any ideas out there? If so, let me know. In the mean time, I hope some of our members find this as handy as I have.

```
100 !*****
110 ! TRANSLATES FROM
120 ! DIS/VAR 80 TO MERGE
130 ! FORMAT
140 !*****
150 !
160 !USE A FULL SCREEN
170 !EDITOR TO CREATE
180 !EXTENDED BASIC PROGRAMS
190 !
200 !CREATE A FILE USING
210 !TI-WRITER - MAKE
220 !SURE YOU DISABLE THE
230 !WORD WRAP MODE AND
240 !LIMIT THE LENGTH
250 !TO 80 CHARACTERS
260 !
270 CALL CLEAR
280 DISPLAY AT(3,7)BEEP ERAS
E ALL:"***TRANSLATE***"
290 DISPLAY AT(7,5):"DIS/VAR
80 FILENAME:"
300 ACCEPT AT(9,5)SIZE(15):I
N$
310 DISPLAY AT(12,5)BEEP:"ME
RGED OUTPUT FILENAME:"
320 ACCEPT AT(14,5)SIZE(15):
OUT$
330 OPEN #1:IN$
340 OPEN #2:OUT$,VARIABLE 16
3
350 LINPUT #1:L$
360 S=POS(L$," ",1)
370 ON ERROR 490
380 N=VAL(SEG$(L$,1,S))
390 ON ERROR 440
400 A=INT(N/256)
410 A$=CHR$(N-A6):: PRINT L$
420 PRINT #2:CHR$(A);A$;CHR$
(131);SEG$(L$,S+1,80);CHR$(0
)
430 GOTO 350
440 PRINT #2:CHR$(255);CHR$(
255)
450 CLOSE #2
460 PRINT : "ENTER ""NEW""
AND THEN ""MERGE""THE TRANSL
ATED FILENAME:" : " ";OU
T$: : :
470 PRINT "REMEMBER TO REMOV
E THE LEADING ""!"" IN
EVERY LINE." : : : :
480 END
490 ON ERROR 440
500 RETURN 350
```



ALIVE AND WELL



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FEATURING THE TI-99/4A

DECEMBER 1984

Triple-sided Floppies

First, everyone was happy with single-sided disk drives because they were so much faster than cassette. Then, when disks started to fill up faster than expected, people punched a second write protect notch and used the flip side. Now that double-sided drives are becoming more popular and less expensive, what will you do with your floppy disks? Make them triple-sided!

There's a catch. Since you record a data track (.012" wide) where a guard track (.008" wide) should be, the slight overlap could affect data on adjacent tracks. Be careful, and don't use triple-sided disks for serious mass storage.

To make a triple-sided floppy (for experimentation only), initialize the front side as single-sided, and the back side as double-sided. This puts two sets of tracks on the front side, which is the best side of a single-sided disk.

Both sides of floppy may be initialized as double-sided, for a total of four sides, but this has usually resulted in an unreliable disk.

Programming Hints

Courtesy of R.Roy

Ever wanted to put a FOR/NEXT statement after IF...THEN in an Extended Basic program line? Turn off the prescan before the line is scanned, and the statement will run. Otherwise, the program will abort with an error as it prepares to run.

When you turn off the prescan, make sure you turn it back on after the line, since Extended Basic does not check for errors when the prescan is turned off.

Enhanced Consoles?

Phoenix, 99/8, and other dreams.

Ever since TI pulled out of the home computer market there have been rumors of enhanced consoles becoming available. A TI-produced

version, the 99/8, was produced in very limited numbers. It was never offered for public sale. A CorComp-produced version, variously called the 99/64, the 99000, and the Phoenix, never was produced.

The Phoenix, supposedly to be released in August of 1984, was plagued by software problems. Some people in the CorComp organization wanted it to be compatible with another popular microcomputer. The cost of developing compatible software and hardware pushed the total development cost of the Phoenix to about three times original estimates.

The present CorComp management, wary of unprofitable product lines, has placed the Phoenix on hold until market conditions improve.

The Phoenix, which still hasn't reached the final stages of development, will probably be a 4A-compatible with memory expansion, RS232, and DSDD disk controller. When will it be available? When market conditions improve. That means no one knows.

CorComp RS232 Fix

The CorComp RS232 card is supposedly incompatible with the CorComp DSDD disk controller. Only a few early production runs are affected. According to Jackie Sagouspe, president of CorComp, the RS232 card was marketed before the DSDD disk controller was operational. After the disk controller was in production CorComp changed the design of the RS232 card to insure full compatibility. The change is very minor.

Early RS232 cards were numbered serially. In February, 1984, serial numbers were discontinued for a few months. If your card was purchased in February or earlier, especially if it has serial number, it may not work properly with the dou-

ble density disk controller. If your CorComp RS232 card is not working as you think it should, return it for warranty service. CorComp is currently modifying these early RS232 cards to insure full compatibility with the disk controller.

Lockups and Crashes

A number of people have recently been experiencing system crashes and keyboard lockups for no apparent reason. The problem usually starts with a main title screen that has extra or misplaced characters after a module is inserted or removed.

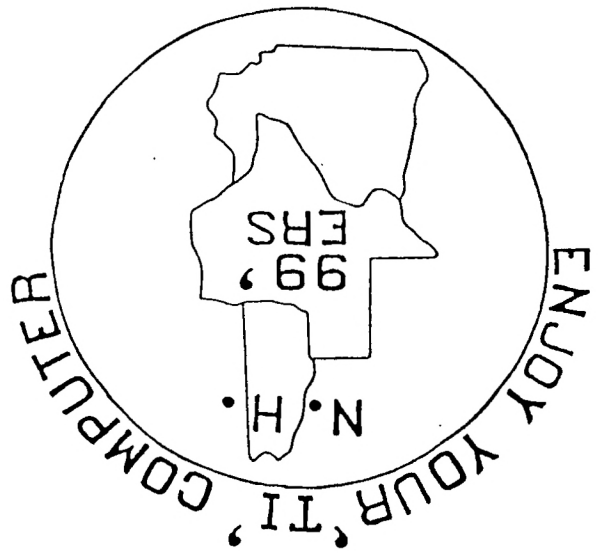
Since the GROM chips in the modules are poor drivers, even small amounts of contamination on the contacts can cause a loss of data. A module with many GROMS, such as Extended Basic, is especially sensitive.

The contacts on the module may be cleaned with rubbing alcohol and a lintless swab. The module connector in the console should be cleaned by a qualified technician. Do not use lubricated color TV tuner cleaner to clean modules or connectors since the lubricant tends to attract dirt.

If cleaning the module contacts doesn't seem to help, or if none of the modules work but TI Basic operates normally after the module is removed, the trouble is inside the console.

The module connector plugs into the main computer board. Each time you insert or remove a module, the connector shifts very slightly. A qualified technician should remove the connector from the board, burnish the metal contacts, and reassemble the console. Since TI did not use gold plated connectors for this part of the computer, it may be necessary to burnish (remove oxidation by rubbing) the contacts on a regular basis, perhaps yearly.

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