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SAN DIEGO COMPUTER SOCIETY

TI-SIG

MARCH 1985 NEWSLETTER

Welcome to the TI Special Interest Group. Our prime objective is to provide a forum for the exchange of information about the TI-99/4A home computer. Your participation is the basis for this group's existence. The Executive Board needs your suggestions and input to this Newsletter to achieve our goal.

MIKE KELLEY
President

THIRD CLASS - DATED MATERIAL

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FIRST CORNER

On behalf of the members of the TI-SIG I would like to welcome you to our users group. Even if you are not a local dues paying member please consider yourself as one! I would like to thank two volunteers and those who pledged their support at the last meeting. Two committies were formed. The new committies are:

Membership -- Ron Vodicka

Publicity -- Rod Van Drden

(We still need a volunteer for secretary.) At last count Rod had gathered the names of nearly 300 TI user groups from around the world. We would like to exchange newsletters with all these groups.

At this month's meeting we will see a demonstration of GRAPHX. This program comes from Australia. With it you can address all 49,192 pixels on your screen when drawing with a joystick and you can mix up to 16 colors in the BIT MAP mode. Screen backgrounds and artwork can be saved on CLIPBOARDS. But the features of this truly unique program don't stop there: You can store and retrieve multiple images and animate them!

Next month we will be taking a look at the UCSD PASCAL system. You'll be taken on a tour of the commands and features of this remarkable language.

Last month we added more to our library. Foremost is a program by Tom Knight of Jacksonville, Florida, called TK-WRITER. This program loads from Extended basic just like Quality Soft's QS-WRITER. The files from the TI-WRITER disk are required, as are 32K and disk drive. It loads fairly quickly. The only problem I've experienced is that the Show Directory command returns to the title screen. With TK-WRITER you can load the Editor, Formatter or Utilities. The program has been added to our library thanks to Tom Knight's "FREEWARE" offer, if you like it send him \$7.50.

From the Hoosier Users Group (HUGger's) of Indianapolis, Indiana, comes a TI-FORTH disk which can be loaded from X-Basic, E/A and the Utility option of TI-WRITER. It is packed with some excellent features, but is not recommended for the novice FORTH user. Some screens are shifted to allow for different loaders. A speech synthesizer is required to

use the LOAD program as is and for the math drill and speech options from the menu. You can also load their sound and terminal options directly from the menu. Only the terminal has been saved so I would encourage you to build on these routines.

Chip Jarvis has broken the sound barrier in FORTH (see article elsewhere in this issue). Chip also suggests that TI-FORTH users examine line 10 of screen #58 to see if the Graphics Primitives have been fixed on your system disk. The last half of line 10 should read:

```
IF SMTN 80 0 VFILL 300 ' SATR ! ENDF
```

(that's a " ' " instead of " ! " before SATR).

The library addition I'm most proud of is a double sided double density TI-FORTH disk which loads from Editor/Assembler as well as the CorComp Disk Manager program. This provides 360 screens per disk!

The North Park Recreation Council has requested us to submit a brochure telling about our group. This would be a good time for us to decide which direction our group is going to take. I would like to see us take on more programming languages, emphasizing those which are of interest to our members. Another area we should tackle is hardware modifications. To accomplish this we could set up a calendar with specific topics well in advance of the meeting. Software demonstrations and special topics can be scheduled as needed.

There is another TI users group which meets not more than 1 mile from where we meet, only 5 days before our SIG. There has been duplication of meeting topics in the same month and as a member of more than one TI group I would like to see a little more variety. Many of our members are also members of the SCCG (Southern California Computer Group). I would like to see both the San Diego groups work together more than they have. We do not need to compete for members, as the TI-SIG does not require dues to attend any of our meetings. As in hiking - the group can only travel as fast as the slowest person in the group. I would like to show more than the intrinsic value of being a member of either or both groups through some programming and help clinics at each meeting.

~~~Mike Kelley

# !! BREAKTHROUGH !!

## CHIP'S SOUND ROUTINES

The screens on the right show how you can use sound statements similar to those of TI-Basic with TI-Forth. To use sound with the TI99/4A, you must first build a sound list in VDP ram. The words **SOUNDBUILD** and **NOISEBUILD** will help you do this. The format for **SOUNDBUILD** is:

generator# frequency volume **SOUNDBUILD**

Note that you must specify tone generators 1, 2, or 3 for **SOUNDBUILD**. The frequency is in hertz and must be a number between 110 and 32767. The volume is a number between 0 and 30, 0 being the loudest, and 30 being the softest (silence). The format for **NOISEBUILD** is:

noise-type volume **NOISEBUILD**

The noise type is a number from 0 to 7. If noise #7 is specified, the noise shift rate depends on the frequency you specify for sound generator #3.

After defining a **SOUNDBUILD** or **NOISEBUILD**, you must also give a **DURATION**. The format for **DURATION** is:

duration (in milliseconds) **DURATION**

Duration can be anywhere from 0 to 4250 milliseconds. (Actually, the specification isn't exact - if you specify 4950 the sound will play for 4.25 seconds.) After you have finished creating a sound list with a series of **SOUNDBUILD**s, **NOISEBUILD**s, and **DURATION**s, you can play them by executing the word **PLAY**. If you want to hear it again, use the word **REPLAY**.

Here is an example: After loading the screens which contain the sound routines (i.e. scr#1 and scr# 2) type in the following: 1 330 0 **SOUNDBUILD** 2 440 5 **SOUNDBUILD** <cr> 3000 **DURATION** <cr> **PLAY** <cr>, and then if you wish to hear it again type **REPLAY** <cr>.

The third screen of the sound routines illustrates the use of **SOUNDBUILD** and **DURATION**. (Boot it and see if you can recognize the tune).

I hope you enjoy using these routines. If you have any questions, I'd be glad to answer them. My CompuServe user ID# is 74206,3252 and my name is Chip Jarvis. I can also be reached c/o San Diego TI-SIG.

### EDITOR'S COMMENT

Congratulations, Chip, on breaking the **SOUND BARRIER**. And thanks for sharing.

```
SCR# 1
( TESTED SOUND ROUTINES 2/14/85 TCJ)  BASE->R  : SOUNDS ;
HEX 1400 VARIABLE S-START  1400 VARIABLE L-DUR
  1401 VARIABLE S-END
: VDP-WRITE ( ...bytes to write, # of bytes)
  0 DD S-END VSBW 1 S-END +! LOOP ;
: VOICE 1- 20 * 80 OR ; DECIMAL
: FREQ-CODE ( gen freq -- )
  111861. ROT M/ SWAP DROP DUP 4 SRA ROT VOICE ROT 15 AND OR
  2 VDP-WRITE ;
: VOL-CODE ( gen vol -- )
  1 SRA SWAP VOICE 16 + OR 1 VDP-WRITE ;
: NOISE-CODE ( noisetype -- )
  7 AND 224 OR 1 VDP-WRITE ;
: DUR-CODE ( millisec -- 60ths)  4 SRA 1 VDP-WRITE ;
-->
```

```
SCR# 2
( SOUND ROUTINES cont'd )
: UPDATE-POINTERS ( -- )
  S-END L-DUR - DUP 1- L-DUR VSBW 1+ L-DUR +! ;
: SOUNDBUILD ( gen freq vol -- )
  ROT DUP ROT VOL-CODE SWAP FREQ-CODE ;
: NOISEBUILD ( type vol -- )
  4 DUP ROT VOL-CODE SWAP NOISE-CODE ;
: DURATION ( millisec -- )
  UPDATE-POINTERS DUR-CODE S-END 1 +! ;
  HEX
: REPLAY ( replay sound list in vdp ram)
  S-START 83CC ! 83FD C 1 OR 83FD C!  1 83CE C! ;
: PLAY 00 FF DF BF 9F 04  6 VDP-WRITE
  1401 S-END ! 1400 L-DUR ! REPLAY ;
R->BASE
```

```
SCR# 3
( NOTES FOR SOUND [example] )
1 1047 0 SOUNDBUILD 125 DURATION
1 1175 0 SOUNDBUILD 125 DURATION
1 1319 0 SOUNDBUILD 125 DURATION
1 1568 0 SOUNDBUILD 125 DURATION
1 30000 0 SOUNDBUILD 125 DURATION
1 1319 0 SOUNDBUILD 175 DURATION
1 1568 0 SOUNDBUILD 600 DURATION
PLAY ;S
```

# THE MULTIPLAN CORNER

by Steve Zimmerman

Since tax time is almost upon us, I thought that a SIMPLE tax worksheet might be appropriate for this month's column. This sheet works with the long (1040) tax form, and also replaces Schedules B and W (interest income and deduction for a married couple when both work). It is set up so that entries made in the "FEDERAL" column will be copied to the "STATE" column (when the laws permit). Each figure need be entered only once--the worksheet copies it as needed.

I hope to have this worksheet on both the SCCG and TISIG boards as a SYLK (SYmbolic LinK) file. This type of file can be downloaded just like an ASCII text file, but can be loaded into Multiplan and run just like any other Multiplan file. Unlike other files permitting information transfer between spreadsheets, SYLK files transfer formulas as well as data. Feel free to change the worksheet in any way to meet your tax needs!

To use the worksheet, SELF WAGES and SPOUSE WAGES are entered in the "FEDERAL" column. Interest income is likewise entered in the "FEDERAL" column. If you want the name of the bank to appear, enter it in the areas marked A-G in rows 10-16. IRA contributions are entered by "SELF IRA" and "SPOUSE IRA". These are not copied over because I am a member of a qualified plan, and so cannot deduct IRA contributions. If you can, then replace the dashes with RC[-2] to copy the information over.

Schedule W (row 24) is copied from the portion of the worksheet on the right. This area copies both incomes, tests for the larger, and figures the deductible amount, which is then copied to row 24, column 2.

Charitable contributions and exemptions (FEDERAL) are entered on rows 32 and 34. The tax due must be looked up in the tax tables and entered in the "FEDERAL" and "STATE" columns. I didn't bother including a table look-up (which IS possible in Multiplan!) because I didn't feel like keying in endless tax tables!

Tax credits and state exemptions are entered next, and then the amounts withheld for each person for both federal and state taxes. The state renters credit is entered last, and the worksheet then tells you what your tax due or refund is.

This is not intended to be a complete tax package--just an easy one to work with. It can be adjusted easily to reflect different families situations, and rows can be added in where needed or taken out where not needed.

To load the SYLK file mentioned earlier, just download the file from the BBS. You will have an INT/FIXED 128 file rather than a DIS/VAR 80 file. This doesn't matter--you can transfer it just as easily with TE-II (which is how I sent it out!). To use the file with Multiplan, load your Multiplan disk as you normally would. On the Transfer Options menu, set the mode to SYMBOLIC rather than NORMAL (just space over once with the space bar), use the TAB (CTRL 2) to go to "setup" if your data disk is in DSK2 and enter DSK2, and then press <ENTER>. You will then Transfer Load the file under the filename you saved it to on disk. THIS WILL TAKE LONGER THAN LOADING A NORMAL FILE! It's more like sending a file via TE-II. You should get a message at the bottom of the screen, "reading xx", then everything will recalculate, and the new worksheet will display!

BEFORE you do anything else, go back to your Transfer Options screen and set your mode back to NORMAL so that you can save your file as a normal Multiplan file. To use a new filename, in this case DO NOT use the Transfer Rename command! Transfer Rename will delete the old file and save under the new filename! Use Transfer Save, and just rekey the name to the new filename. By so doing, you still have the SYLK file (just in case!).

As you can see, the SYLK format is a great boon to Multiplan users, as it allows templates to be readily exchanged. The DIF (data interchange format) files supported by other spreadsheets do not allow formulas to be sent along--just values!

This worksheet is one of my tax planning tools. I use another worksheet to project income for my wife and myself, and that sheet could be linked to this to figure our projected tax position. However, that will make a topic for another column!

If you have any questions, leave a message for me on the SCCG or TISIG boards. If there are topics you would like to see covered here, LET ME KNOW! There's a lot to talk about on Multiplan (and I can run on like this for a LONG time!), but I need to know the interests of the group in order to keep this column valuable to as many members (and guests!) as possible. Thanks!

Please refer to TEMPLATE on opposite page, for an example of how the info will be printed see following page.

## TI-SIG MEETINGS

Date : 3rd Tuesday each month  
Place : North Park Recreation Center  
4044 Idaho Street  
(between Howard & Lincoln)

## MAILING ADDRESS:

TI-SIG  
P.O.Box 83821  
San Diego, CA 92138

# MULTIPLAN TEMPLATE

|    | 1              | 2                                                                | 3                                                                | 4 | 5             | 6               | 7               | 8                                                    |
|----|----------------|------------------------------------------------------------------|------------------------------------------------------------------|---|---------------|-----------------|-----------------|------------------------------------------------------|
| 1  | "INCOME TAX"   |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 2  | "1984"         | "FEDERAL"                                                        | "STATE"                                                          |   |               |                 |                 |                                                      |
| 3  |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 4  | "SELF WAGES"   |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 5  | "SPOUSE WAGES" |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 6  |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 7  | "TOTAL"        | RC[-2]C+RC[-3]C                                                  | RC[-2]C+RC[-3]C                                                  |   |               |                 |                 |                                                      |
| 8  |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 9  | "INTEREST:"    |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 10 | "A"            |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 11 | "B"            |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 12 | "C"            |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 13 | "D"            |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 14 | "E"            |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 15 | "F"            |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 16 | "G"            |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 17 | "TOTAL:"       | RC[-1]C+RC[-2]C+R<br>[-3]C+RC[-4]C+RC<br>-5]C+RC[-6]C+RC-<br>7]C | RC[-1]C+RC[-2]C+R<br>[-3]C+RC[-4]C+RC<br>-5]C+RC[-6]C+RC-<br>7]C |   |               |                 |                 |                                                      |
| 18 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 19 | "INCOME"       |                                                                  |                                                                  |   |               | "SELF"          | "SPOUSE"        |                                                      |
| 20 | "ADJUSTMTS:"   |                                                                  |                                                                  |   | "SCH ED W:"   |                 |                 |                                                      |
| 21 |                |                                                                  |                                                                  |   | "EARN INC:"   | RC[-17]C[-5]    | RC[-16]C[-6]    |                                                      |
| 22 | "SELF IRA"     |                                                                  | -----                                                            |   | "ADJUST:"     | RC[-5]          | RC[+1]C[-6]     |                                                      |
| 23 | "SPOUSE IRA"   |                                                                  | -----                                                            |   | "QUAL E I:"   | RC[-2]C-RC[-1]C | RC[-2]C-RC[-1]C |                                                      |
| 24 | "SCH W"        | RC[+3]C[+6]                                                      | -----                                                            |   |               |                 |                 |                                                      |
| 25 | "TOTAL ADJ:"   | RC[-1]C+RC[-2]C+R<br>[-3]C                                       | -----                                                            |   |               |                 |                 | IF (RC[-2]C<RC[-2]C[-1]<br>,RC[-2]C,RC[-2]C[-1]<br>) |
| 26 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 27 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 28 | "ADJ GROSS"    |                                                                  |                                                                  |   | "DEDUCT AMT:" |                 |                 | 0.1*RC[-2]C                                          |
| 29 | "INCOME:"      | RC[-22]C+RC[-12]C<br>-RC[-4]C                                    | RC[-22]C+RC[-12]C                                                |   |               |                 |                 |                                                      |
| 30 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 31 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 32 | "CHARITY:"     |                                                                  | RC[-2]                                                           |   |               |                 |                 |                                                      |
| 33 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 34 | "EXEMPT(x):"   |                                                                  | -----                                                            |   |               |                 |                 |                                                      |
| 35 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 36 | "TAXABLE \$:"  | RC[-7]C-RC[-4]C-R<br>[-2]C                                       | RC[-7]C-RC[-4]C                                                  |   |               |                 |                 |                                                      |
| 37 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 38 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 39 | "TAX DUE:"     |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 40 | "(FRM TABLE)"  |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 41 | "CREDITS:"     |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 42 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 43 | "EXEMPT:"      | -----                                                            |                                                                  |   |               |                 |                 |                                                      |
| 44 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 45 | "TAX DUE:"     | RC[-6]C                                                          | RC[-6]C-RC[-2]C                                                  |   |               |                 |                 |                                                      |
| 46 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 47 | "\$ W/HELD"    | "FEDERAL"                                                        | "STATE"                                                          |   |               |                 |                 |                                                      |
| 48 | "SELF"         |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 49 | "SPOUSE"       |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 50 | "TOTAL:"       | RC[-1]C+RC[-2]C                                                  | RC[-1]C+RC[-2]C+R<br>[+1]C                                       |   |               |                 |                 |                                                      |
| 51 | "RENT CREDIT"  | -----                                                            |                                                                  |   |               |                 |                 |                                                      |
| 52 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 53 | "REFUND:"      | IF (RC[-3]C>RC[-8]<br>C,RC[-3]C-RC[-8]C<br>,-----)               | IF (RC[-3]C>RC[-8]<br>C,RC[-3]C-RC[-8]C<br>,-----)               |   |               |                 |                 |                                                      |
| 54 |                |                                                                  |                                                                  |   |               |                 |                 |                                                      |
| 55 | "TAX DUE:"     | IF (RC[-10]C>RC[-5]<br>]C,RC[-10]C-RC[-5]<br>]C,-----<br>)       | IF (RC[-10]C>RC[-5]<br>]C,RC[-10]C-RC[-5]<br>]C,-----<br>)       |   |               |                 |                 |                                                      |

# MULTIPLAN SAMPLE PRINT-OUT

|              |         |        |
|--------------|---------|--------|
| INCOME TAX   |         |        |
| 1984         | FEDERAL | STATE  |
| SELF WAGES   |         | \$0.00 |
| SPOUSE WAGES |         | \$0.00 |
| TOTAL        | \$0.00  | \$0.00 |

|           |        |        |
|-----------|--------|--------|
| INTEREST: |        |        |
| A         |        | \$0.00 |
| B         |        | \$0.00 |
| C         |        | \$0.00 |
| D         |        | \$0.00 |
| E         |        | \$0.00 |
| F         |        | \$0.00 |
| G         |        | \$0.00 |
| TOTAL:    | \$0.00 | \$0.00 |

|             |        |       |
|-------------|--------|-------|
| INCOME      |        |       |
| ADJUSTMNTS: |        |       |
| SELF IRA    | -----  |       |
| SPOUSE IRA  | -----  |       |
| SCH W       | \$0.00 | ----- |
| TOTAL ADJ:  | \$0.00 | ----- |

|           |        |        |
|-----------|--------|--------|
|           | SELF   | SPOUSE |
| SCHED W:  |        |        |
| EARN INC: | \$0.00 | \$0.00 |
| ADJUST:   | \$0.00 | \$0.00 |
| QUAL E I: | \$0.00 | \$0.00 |

|           |        |        |
|-----------|--------|--------|
| ADJ GROSS |        |        |
| INCOME:   | \$0.00 | \$0.00 |

|             |        |
|-------------|--------|
| DECUCT AMT: | \$0.00 |
|-------------|--------|

|          |  |        |
|----------|--|--------|
| CHARITY: |  | \$0.00 |
|----------|--|--------|

|            |       |  |
|------------|-------|--|
| EXEMPT(x): | ----- |  |
|------------|-------|--|

|             |        |        |
|-------------|--------|--------|
| TAXABLE \$: | \$0.00 | \$0.00 |
|-------------|--------|--------|

|             |  |  |
|-------------|--|--|
| TAX DUE:    |  |  |
| (FRM TABLE) |  |  |
| CREDITS:    |  |  |

|         |       |  |
|---------|-------|--|
| EXEMPT: | ----- |  |
|---------|-------|--|

|          |        |        |
|----------|--------|--------|
| TAX DUE: | \$0.00 | \$0.00 |
|----------|--------|--------|

|             |         |        |
|-------------|---------|--------|
| \$ W/HELD   | FEDERAL | STATE  |
| SELF        |         |        |
| SPOUSE      |         |        |
| TOTAL:      | \$0.00  | \$0.00 |
| RENT CREDIT | -----   |        |

|         |       |       |
|---------|-------|-------|
| REFUND: | ----- | ----- |
|---------|-------|-------|

|          |       |       |
|----------|-------|-------|
| TAX DUE: | ----- | ----- |
|----------|-------|-------|

\*TI-SIG\*TI-SIG\*TI-SIG\*TI-SIG\*TI-SIG\*TI-SIG\*TI-SIG\*

TI-SIG NEWSLETTER is published monthly as a free service to dues-paying members. It is intended as a forum for information exchange, education and enlightenment and any contributions which further this aim are welcome.

Lutz Winkler  
Editor

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President
- Gene Serafine.....223-0923  
Vice-President
- Bob Abrahamsen.....224-6164  
Treasurer

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## THE GAME CORNER

Well Gamesters, it's been a while since we've had the pleasure to sit down and pound the keys. Last issue we were dealing with the Christmas Compensation Club. In solving that little gem the following fact chart might help:

Use initial capitals for their ages.  
Facts given are:

$$\begin{array}{ll} (K-I)=3(K-H) & \text{(i)} \\ J/H=9/10 & \text{(ii)} \\ J/I=6/5 & \text{(iii)} \\ G-K=J-I & \text{(iv)} \end{array}$$

Since all letters must stand for whole numbers, the following becomes evident:

- a. From (ii) and (iii) J must be a multiple of 9 and of 6, thus J may be denoted by  $m(18)$ .
  - b. Likewise H is  $m(20)$ , and I is  $m(15)$ .
- From (i)  $2K=3H-I$ . (v)

H and I must be both odd or both even (for  $2K$  must be even).

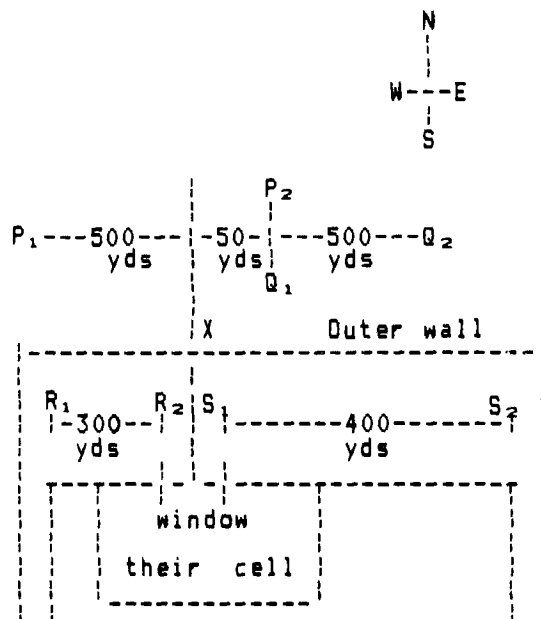
But H is  $m(20)$  and cannot be odd. H and I both even, H is  $m(40)$  and I is  $m(30)$ ; and J is  $m(36)$ .

If  $H=80$ ,  $I=60$  and  $J=72$ , then from (v)  $2K=180$ , then  $K=90$ .

We are told that none of them has reached the age of 90 and therefore the final answer must be  $H=40$ ,  $I=30$ ,  $J=36$ ,  $K=45$  and from (iv)  $G=51$ .

Well we hope you have enjoyed the puzzles so far. This is your column and if there are any particular types of puzzles you would like to see in this column, leave me a message on TIBBS or the SCCG Board. Anyone who would like to drop me a line at the Post Office Box, please do so, that way I will have had a reason to go there.

## Out of the Window and Over the Wall



This month, I would like to explore the possibilities of excessive phreaking:

Alf, Bert and Charlie are in prison. They are suffering from Computeritis and must get out as soon as possible.

They have made arrangements for getting through the window of their cell, and over the outer wall at X. But they can only hope to escape unseen if they do it in the dark, one man at a time, and if each man has a clear two minutes with all the guards at least 100 yards away.

They reckon that it is dark enough for their purposes at 9:00 P.M., and at that time a new lot of guards come on duty. There are two guards inside the outer wall. One starts at  $R_1$ , 300 yards west of a point outside their window, marches to  $R_2$ , exactly outside their window, and turns about. The guards start at 9:00 P.M. from the points  $P_1$ ,  $Q_1$ ,  $R_1$ ,  $S_1$  and march up and down their beats at a regular speed of 100 yards per minute. (Time spent in turning can be neglected.)

At what times should Alf, Bert and Charlie attempt to escape?

Well Kids, that just about wraps it up for another issue.

Looking forward to some feedback,

Bye4Now,

Biker Bob

# THE FORTH CORNER

## STARTING INTO FORTH

by Don Goodno

To start with, I am no expert on FORTH. Mike has asked me to give you my impressions and a few TIPS if possible. After the demo at the SCCG meeting, I decided that FORTH was too much for me, but I bought the disk and the manual anyway, just in case I changed my mind. After a while I decided to open the manual and look it over. As with all of TI's manuals this one could be better too, but at least it tells you to get some more books on FORTH. There are two that I recommend: STARTING FORTH by Leo Brodie and BEGINNING FORTH by Paul Chirlian.

I waded thru the manual - a sure cure for insomnia - and got more and more interested. A few of us in TI-SIG got together and I saw what it could do. It is a very powerful and speedy language. Here are a few ideas and SCREENS for you.

Since I'm a bit lazy I set up my disk to AUTO-BOOT. This is how it is done, but first make a COPY OF THE ORIGINAL DISK. Then use the copy and load it with E/A #3 DSK1.FORTH. After the menu shows and the cursor blinks, type -GRAPH -DUMP -VDPMODES -COPY <ENTER> -ASSEMBLER -CRU -PRINT <ENTER> -FLOAT -BSAVE -EDITOR <ENTER>. This will load all of the options except -TRACE and -64SUPPORT. If you think you would like the -64SUPPORT better than the -EDITOR use it instead. I couldn't see it well enough myself. Type in ' Task 51 BSAVE <ENTER>. (' is FUNCT-D.) When you are done with this it will have written over screens 51 to 64 in a binary image. No problem. Now you must change screens 3 and 20 to look like the following:

```
SCR #3
( WELCOME SCREEN ) 0 0 GOTOXY ." LOADING-TI FORTH modified by D
on Goodno " CR BASE->R HEX 10 83C2 C! ( QUIT OFF! )
DECIMAL ( 84 LOAD ) 51 BLOAD 16 SYSTEM MENU
1 VDPMODE ! DECIMAL
: FREE SP HERE - . ;
: PAGE CLS 0 0 GOTOXY ;
0 DISK LO !
: EB EMPTY-BUFFERS ;
  180 DISK HI ! ( SETS UP FOR 2 SINGLE SIDED DRIVES )
  180 DISK SIZE ! ) ( SETS UP FOR DOUBLE SIDED DRIVES )
  360 DISK HI ! ) ( SETS UP FOR 2 DOUBLE SIDED DRIVES )
  540 DISK HI ! ) ( SETS UP FOR 3 DOUBLE SIDED DRIVES )
6 LOAD 7 LOAD
R->BASE
```

Screen 3 does several new things. First it adds a new word PAGE to the dictionary, which clears the screen and puts the cursor in the upper left hand corner. Now you can set up the computer for the type of disk drives you use. All you have to do is DELETE the PARENTHESIS around the one that fits your system. Next, because I got tired of typing EMPTY-BUFFERS, I put in a definition to shorten it to EB. Also 0 DISK\_LO ! lets you copy the title screen

automatically. Finally it auto-boots the COPY ROUTINE on screens 6 and 7.

```
SCR #20
( CONDITIONAL LOAD )
: MENU CR 272 2:5 DO I MESSAGE CR LOOP CR CR CR ;
: SLIT ( --- ASGR OF STRING LITERAL )
  R> DUP C 1+ =CELLS OVER + >R ;

: WLITERAL ( WLITERAL word )
  BL STATE
  IF COMPILE SLIT WORD HERE C 1+ =CELLS ALLOT
  ELSE WORD HERE ENOIF ; IMMEDIATE -->
-SYNONYMS * -EDITOR * -COPY *
-DUMP * -PRINT * -FLOAT *
-BSAVE * -ASSEMBLER * -CRU *
-CODE * -VDPMODES * -FILE *
-TEXT * -GRAPH * -SPLIT *
-MULTI * -GRAPH1 * -GRAPH2 *
ITEMS ARE ALL AUTO-LOADED EXCEPT -TRACE
```

On screen 20 (the MENU) I added the asterisks and the last line telling me that they are all auto-booted.

```
SCR #6
( PROGRAM DISK INITIALIZATION ) BASE->R DECIMAL
: KEY" CR ." and press any key." KEY DROP ;
: CLEAR-IT DISK_SIZE 0 DO I CLEAR LOOP FLUSH ;
: INIT PAGE
  ." Insert blank disk in drive 1"
  KEY? 0 FORMAT-DISK CLEAR-IT DISK-HEAD ;
: INSTALL-ERRS PAGE
  ." Place FORTH system disk in drive 1" KEY? CR CR
  4 BLOCK UPDATE 5 BLOCK UPDATE
  ." Place initialized disk in drive 1" KEY? FLUSH ;
: DISK-INIT INIT INSTALL-ERRS PAGE ABORT ;
R->BASE
```

```
SCR #7
( COPY DISK ) BASE->R DECIMAL
: SOURCE PAGE
  ." Insert Source Disk In Drive 2, " CR
  ." Insert New Disk In Drive 1, "
  KEY? ;
: COPY-DISK SOURCE FORTH-COPY PAGE ABORT ;
R->BASE
```

Screens 6 and 7 are for initialization of FORTH disks and copying any disk, sector by sector. To use, type in DISK-INIT to initialize a disk, and COPY-DISK to copy a disk. After either one is typed the screen will come up with a message where to put the disk. They work very well. You can use disks formatted with FORTH or DISK MANAGER.

This will get you started and if you are interested, the SIG GROUP is trying to get more people together to help each other so we can all enjoy Forth. If you have any comments contact MIKE KELLEY on his BBS, or me DON GOODNO (281-2111) or Lutz Winkler (277-4437). If you want to get started with FORTH there is a very good program in the FILE SECTION of the SCCG BBS which converts VAR/80 files to FORTH screens or vice versa. The screens in this article were created with this program.



## LOGGING ON

Last month I gave you a general overview of the TE2's features. Now I'd like to show you how to create a log-on file for use with any telecommunication system you call. The first step is to type in the program listed on pages 30-32 of the TE2 manual. (Delete the printer lines, they are not needed.) Before you proceed, I recommend that you read Appendix B on page 28 of the manual. Next, run the program from Basic and put a disk in drive #1.

The first prompt asks for a name under which to save your log-on file. It is important to limit this name to 7 characters! The instructions show that the first thing to do is to enter an output record. Since we need to send time delays to the host before sending text select INPUT RECORD from the first menu. You are then asked for a time delay in tenths of a second. If more than 4.2 seconds are required you must enter multiple time delays. Once the correct time delay is set, choose the OUTPUT option from the menu. Next enter the text and any control codes required by the host system. For instance, on our TIBBS your user number requires a carriage return so you now choose OUTPUT, then TEXT from the second menu and enter your user number. Now you're returned to the second menu and asked again what to do next. Choose OUTPUT again and this time we want to send a control character for the carriage return. Enter "CR" after which you go back to the same sub menu again. This time choose to end the record. Now you're returned to the first menu. Continue in this manner until you've completed creating your log-on file. Last, opt for #3 on the first menu to close the file and write save it to the disk. Here is what your log-on file would look like ( listed with TI-WRITER or EDITOR/ASSEMBLER):

```
0001 2p -> 4.0 sec. time delay
0002 2p
0003 2x -> 2.0 sec. time delay
0004 1A -> used to abort the
0005 2p login message,
0006 2p followed by a CR.
0007 2p
0008 2p
0009 1N -> used to answer no,
0010 2x not a new user.
0011 199 -> The users' user #,
0012 2p followed by a CR.
0013 2p
0014 2x
0015 1TI99 -> The users' password
0016 2p followed by a CR.
0017 2p
0018 2p
0019 2< -> 1.0 sec. time delay
0020 1R -> Read messages.
0021 2x
0022 1N -> New messages since
the last call.
```

-----  
1 (>31) = Text  
2 (>32) = Control Code

If you save this file to your disk as DSKN.TISIG you can use it as your TI-SIG TIBBS log-on file, make sure it is in drive #1 and select option #2:COMMUNICATIONS SETUP. After making any necessary changes to this screen type the file name (TISIG) over the word LOGON at the bottom. If you named it something shorter than 5 characters use the space bar to delete any remaining letters of the word LOGON. Now dial the phone number of the TI-SIG TIBBS: 276-3173. When you hear the carrier tone press (ENTER), then switch your modem to DATA and let TE2 do the busy work for you.

This example has been set up to log you onto the TO-SIG TIBBS and to get you started reading new messages since your last call. (Remember to put YOUR user number and password in the file!) The best way to use the auto-logon feature is to name the file "LOGON". This enables you to choose option #3 of the main menu which causes TE2 to look for a file named LOGON in drive #1 automatically. You MUST, however, wait for the carrier tone before choosing this option.

If you have an autodial modem you may want to have your modem do the dialing as well. For this purpose, you must insert the proper modem commands as text and the required time delays. If you include this in your log-on file then the emulator assumes that the number is not busy or that it will answer on the first ring.

I can not include a time delay table in this article because many of the codes consist of non-printing characters. However it is helpful to create such a table with all the delays so you can refer to it if you need to edit or create log-on files. A list of control codes is also helpful.

Next month I'll explore using the same feature to set the screen color of your choice on any BBS you call. Until then, experiment!

See you online, ~~~Mike Kelley(SysOp)

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### MY LITTLE CORNER

Randy Byte says:  
To err is human, but....  
to really screw up you need a computer.

Your Editor,  
Lutz Winkler  
277-4437

## NEWS/VIEWS FROM MIKE

M&T UTILITYWARE has released a new program called MEMORY MANIPULATOR. With it you can Scan, Search, Move, Alter, Compare, Output, and Screen Dump any memory location. The disk also comes with the SOURCE CODE and a TRACE routine which can be added to your own assembly program to help find bugs within it. So far I haven't seen this feature work. It displays the current content of all workspace registers, program counter and status word. It's supposed to be able to dump any user-specified CPU or VDP memory locations to any valid device name. The only problem I know of is that it prints garbage for the user-specified memory locations, but otherwise the program is worth the \$14.95 + \$2.50 for postage and handling.

Also from M&T comes an updated version of its DISK+AID program. Over 32 menu-driven options to search, alter, compare, change etc. sector by sector. The program comes with a complete description of the TI disk format. For more information write to:

M T UTILITYWARE  
3507 MURL  
MUSKEGON, MI 49442

CREATIVE FILING SYSTEM(CFS), with a utility option, has been designed so even the novice computer operator can use this new and unique data management program. It offers an unlimited number of created records that can be viewed using the display selection from the main menu. Up to 1,100 records can be chosen for a sub-file and can be sorted by any field within the record. Files created with the CFS utility are compatible with TI-WRITER, EDITOR ASSEMBLER(edit mode), and AUTO SPELL-CHECK. For more information write to:

DESIGNER SOFTWARE  
P.O. BOX 525  
JACKSONVILLE, AR 72076

ACORN 99 is the first dual-purpose database system for the TI99/4A. It provides preprogrammed functions for database definition, update, query and reporting. ACORN 99 allows access to user-defined databases via EXTENDED BASIC programs so that custom applications can be created. All database parameters including item types and lengths, record sizes, and number of records are limited only by the physical characteristics of the disk being used. For more information write to:

DAK TREE SYSTEMS  
3922 Valentine Rd.  
Whitmore Lake, MI 48189

ARDEN ENTERPRISES offers CRYPTO COMPUTE which combines the ability to decode built-in Cryptic Messages or cryptograms from many game magazines. The disk contains its own data file of 47 original and challenging Cryptic Messages. Also available every other month by subscription is a data disk with 30 or more original cryptograms.

Another program called SCANNERS tests your memory and dexterity by requiring rapid decisions and executions of commands to prevent the universe from being captured by the evil forces of the Klidson. For more information:

ARDEN ENTERPRISES  
P.O. Box 89  
WALKERSVILLE, MD 21793

SOFTWARE TOOLS has a FREEMWARE offer: a program featuring the ISAM file handling technique (indexed sequential access method). This allows the user to read relative record files using an alphanumeric key, which simplifies record search and reduces response times. The company's policy is: If you like it, send us \$25.00. Mail a disk to:

SOFTWARE TOOLS  
P.O. BOX 191  
NEWTON, MA 02168

(Or get it from the SCCG librarian)

FREE ACCESS LIBRARY offers VOLUMES, public domain software at a cost ranging from \$2.50 to \$8.00. All programs may be copied and distributed as long as copies are not resold for profit. Currently 104 VOLUMES are available. Write to:

FREE ACCESS LIBRARY  
116 CARL ST.  
SAN FRANCISCO, CA 94117

ARRO-SOFT SYSTEMS has a number of new business, educational, and utility programs: Teachers Record, Study Buddy, Invoice, Mailmanager and more! All programs are distributed free and may be copied but not sold for profit. Write to:

ARRO-SOFT SYSTEMS  
P.O. BOX 1761  
EDMOND, OKLAHOMA 73083

RAMSOFT ENTERPRISES is marketing TC-MAIL. It is a mailing list program written entirely in TI-FORTH. Features include:  
TITLE FIELD            MULTIPLE SORTS    FULL SCREEN EDITOR  
40 COLUMN DISPLAY    710 RECS/DISK    SORT BY ANY FIELD

The entire program resides in memory and data disks are created and accessed directly from it. It will work with color and monochrome monitors. TC-MAIL is not protected and may be backed up with TI-FORTH, data disks created may be backed up with DISK MANAGER. Disk drive, 48K and Editor/Assembler are required, a printer is recommended. All for only \$9.95 plus \$1.50 shipping and handling. To get your copy or a free flyer, write or call:

RAMSOFT ENTERPRISES  
1501 East Chapman Avenue #338  
FULLERTON, CA 92631  
(714) 738-5665