TIsHUG NEWS DIGEST

Focusing on the TI99/4A Home Computer

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T I I N D E X

I B M I N D E X

EDITORS COMMENTS

By Loren West

Well, I'd like to thank the committee for their show of trust in asking me to fill this position I only hope after Bob's supreme effort I can at least throw a shadow on his boots. As usual there always seems to be a few starting wrinkles but I'm sure with a little perserverance on my part and some patient tolerance on yours these will be ironed out quite fast.

I hope you all had an enjoyable and safe Christmas and New Year and I am looking foward to receiving all your mail with articles or ideas for our Magazine, be it through the BBS, Percy's shop or even just posted to me. See you at the next meeting (5th February 1994).

COORDINATOR'S REPORT

What a world we live in now. A world of change in every possible area, and computers are speeding up the rate of change all the time. I read today that scientists even now, are mapping the position of our genes, particularly those ones which lead to medical defects, as we age. The computer has made this mapping feasible. Imagine a future where your genes can be altered, where life threatening defects are removed, a world where we eat genetically tailored meat, or tomatoes, a world where your friendly medical health insurer, will insist on a blood test to establish whether you are insurable.

Imagine a world where all your personal details, including your DNA profile, is available to all Govt. agencies, and perhaps all manner of other people. Well, whether we like it or not, this type of world is coming. It is possible now, but just think of the rate of change within the computer world since we started on the humble TI, and what is available now.

Let me suggest a few of the more recent developments. Already CD ROM technology is being described as "old hat".We face a multimedia revolution. With digital technology and massive capacity for storage of data, developing, programs of the future may become indistinguishable from reality. We are already trialling "Virtual Reality" in the games and entertainment environment. Have you considered what this will mean as we extend the range of uses? Maybe the holographic entertainment portrayed on Startrek, is not too far distant.

Have you noticed recently how fast the storage of data is increasing? To me, the most incredible thing has been the miniaturisation of hardware, particularly hard drives. However hard drives may become obselete soon, with the development of memory cards. These cards are already available, have no moving parts, have low power consumption, rapid access, and are portable. The floptical drive will probably become standard on business machines soon. It has massive storage. The present models store either 128 megs or 640 megs on a read write CD ROM disk.Their price is reducing rapidly. We now have computing power available on home computers, which would rival anything available in the 70s. Yet this revolution has only been going for 20 years, and it is speeding up. What lies around the corner?

Obviously, databases will increase in number, and in size. With present technology, all books could be transferred to disk with a minimum of difficulty. The availability of knowledge, will increase beyond comprehension. Information in almost any form will be instantly available to anyone who wishes to participate. I suspect that many people will not need to actually leave their homes to go to work. They will work from home, using their modem, their fax, their copier,their visophone etc. Another obvious development will be in home entertainment. I think that virtual reality and interactive programming may replace the present fad for video viewing. I suspect that most home entertainment will be linked to, if not actually controlled by the computer. It now seems that the humble home computer, will be linked to many areas of life and living. Already a West Australian firm has produced an interface called "Jeeves" (the butler) which can look after many aspects of life at home. It becomes a control centre for any device you please.eg. Air conditioning, lights, security, washing machine, sprinkler system, even your Mudie train set.

With this increasing reliance on computers in all aspects of our society, I am sure that many people will become dependent on the new technology, and in time will lose their independence. There will be something for everyone. Addicts will be catered for. Why use drugs when you will be able to turn the experiences on and off with the flick of a switch. Already children are mastering the intricacies of computers much faster than adults. I was astounded to see a five yr old playing minefield on Windows, at the hardest level, far more efficiently than I can. While children are mastering the technology, and adapting to it, they are also losing the survival skills which the older generation have. It is interesting to observe the effects which long-term arcade game- playing seem to have on kids. It most certainly does not seem to help them become healthier, happier, more confident human beings. Add to all this, the profit to be made by exploiting the young through sex and violence, and I believe we will face increasing social problems with our youth. We may well be seeing the enslavement of people by technology. What if artificial intelligence become a reality, and the computer develops a life of its own.

What is certain, is that the technological development of computers will develop at an ever increasing pace. We see the present trends, the notebook revolution,(even politicians use them) optical storage and transmission of data. We see RISC technologhy, Local Bus Development, Faster Microprocessors, Voice Recognition etc. Where will it end? It won't. The process will keep on speeding up. There will be wider and wider applications to all aspects of life and living. It seems to me that TIshug members are much better placed, to both understand, and master the coming changes. Unlike some computer dependent people, TI shug members have a wider understanding of computers generally, than many of our more recent users, who have grown up dependent on computers, and even trusting of them to manage their lives. It is a sobering thought that computers make errors, fatal errors. It is said that the majority of recent commercial and military plane crashes, have been caused by computer malfunction. As we trust our politicians and businessmen to computerize our lives, we should have a healthy awareness, of what computers can and cannot do for us efficiently. We should also be vigilant about the abuse of power and information, which centralised computing will bring.

TIshug members are different from many other computer users. They are better informed, more self reliant, help each other, and certainly less dependent than the majority of people who use them. Develop your skills, maintain your independence, help others to use computers for good, and not be enslaved by them. 1994 is a new year and a new challenge. We will be changing too. We will try to keep up with the important changes around us, and share them with you. Join us in this exciting year.

See you at the next meeting

Dick Warburton

END OF ARTICLE

TIsHUG SHOP

with Percy Harrison.

Well, another year has passed and still the TI Computer continues to give good service to those who look after and nurture it. We at TIsHUG are dedicated to keeping these great machines operating for a number of years yet and have the resources, both in parts and technical expertise, to ensure that this happens so long as we have an adequate number of club members to maintain it's operation. All labour put into repairing TI's is done so at no charge to the club or it's members and replacement parts are often supplied below cost, where else can you match such a service.

The Annual General Meeting and barbeque were quite a success with over 40 people in attendance and by the way the steaks and sausage sandwiches disappeared I doubt whether anyone went away hungry.

We have two new Directors on the Board, Bob Relyea and Tom Marshall. As Bob indicated in the December TND he has relinquished the job of Editor and this has been taken up by Loren West who, I am sure, will do an excellent job and carry on Bob's good work. To ensure that he has enough material for each issue of the TND throughout 1994 it will be necessary for more of our members to submit articles, so please think seriously about this and put pen to paper at least once or twice this year.

Bob Relyea has agreed to accept the position of Secretary, Cyril Bohlsen will continue as Treasurer, Dick Warburton as Co-ordinator, Tom Marshall has accepted responsibility for overseeing meeting programs and I will continue to operate the shop. Geoff Trott will continue as Technical Co-ordinator, Larry Saunders will again prepare the TI Software programs and Ross Muddie the Bulletin Board providing the number of users justify it's existance.

Following the recent decision by the Directors to open up our club to other types of computers we hope to see an increase in the number of other computer users in our club membership this year which, hopefully, will improve our revenue and enable us to maintain our TI service as well as offer a similar service to the other machine users. The club shop will have IBM compatable freeware and shareware disks for sale at very reasonable prices and again we would like an indication of the types of programs that interest our members.

With the introduction of other computer users to the club and the sale of IBM compatable freeware and shareware through the club shop it is an appropriate time to advise members that it is an offence to copy, pirate or illegally sell Commercial software. There are heavy penalties for any organisation or person found guilty of such an offence and as we are an incorporated company the Directors and club members could be held responsible for any such practice. The Directors wish to reinforce this point and, with your co-operation, will ensure that no duplication or sales of illegally produced commercial software takes place at club meetings.

Whilst talking about software, I would like to thank both Jacob Aberhard and Mike Slattery for their kind donation of TI modules to the club shop. Such donations not only help to increase our revenue but also provides a better availability of TI software to some of our more recent members who sometimes find it difficult to acquire a particular module or piece of software. Thanks again Jacob and Mike, your generosity is greatly appreciated.

Finally, we have a surplus of back issues of MICRIpendiums and TIsHUG News Digests that are taking up storage space which we can ill afford so the Directors have decided that we will make these available to our members at the February meeting, free of charge so please go through your issues and make note of any that are missing as this may be the opportunity to fill the missing gaps.

PRICE LIST.

TI MODULES AVAILABLE

Adventureland Cassette + Book	$5
Alligator Mix module + Book	$8
Beginners Basic Tutor Cass. + Book	$4
Car Wars Module + Book	$8
Connect Four Module + Book	$8
CART-WRITER Module Only	$20
DIAGNOSTICS Module Only	$20
DISK MANAGER 2 Module Only	$10
HUNT THE WUMPUS Module + Book	$8
Hustle Module + Book	$8
Mind Challengers Module + Book	$8
Mini Memory Module + Book	$20
Mission Impossible Cassette + Book	$5
Munchman Module + Book	$8
Paint 'N Print Module Only	$25
PARSEC Module + Book	$8
PERSONAL RECORD KEEPING Module + Book	$8
Teach Yourself Basic Cassette + Book	$4
TERMINAL EMULATOR II Module + Book	$20
TI EXTENDED BASIC Module + Book	$25
TI Invaders Module + Book	$8
TI-WRITER WORD PROCESSOR Module + Book	$25
Tombstone City Module + Book	$8
TOUCH TYPING TUTOR Module + Book	$8
Tris Module Only	$25
Tunnels of Doom Module + Book	$8
VIDEO GRAPHS Module + Book	$8
Yahtzee Module + Book	$8

IMB SOFTWARE

As Easy As (Spreadsheet)
Flash (Horse Racing Data Sheet)
Powermenu (Menu)
PC Files (Data Base)
VDE (Word Processor)
Anti-Virus Programs 1
Calculators Programs
Disk Utilities 1
Cad Program and Turbo Draw
Penpal and Tec Write
Selection 1
Utilities Disk 2
Money, Wizard, Money Smith.....*
Educational (Children).....*
C Tutor, PC Art, Mailing List....*
4 DOS.....*

Above Disks on 5.25 Format $3.00
Above Disks on 3.5 Format $3.50

Note: Where possible please order 5.25 format.
* Denotes this months releases.

Reduced Prices:

3.5 DD Disks.....$9.00
3.5 HD Disks.....$12.00

Packaging and postage extra on all items.

Wishing you all a very Happy New Year and a prosperous 1994.

Bye for now.

END OF ARTICLE

TIsHUG SOFTWARE

By Larry Saunders

Diskname AT061

Total Sectors 358 Free Sectors 6
Date FEB1994 Files 6

TI-Artist Fonts converted by me.

3DII_F	40 d 80	BALLOON_F	112 d 80
HAMPTON_F	69 d 80	SBLOCK_F	42 d 80
SUPER_F	39 d 80	WESTERN_F	50 d 80

Diskname G062
Total Sectors 358 Free Sectors 5
Date FEB1994 Files 21

WELCOME TO THE ROCK RUNNER DEMO!

This is a demonstration of an exciting game by Eric Lafortune for the TI-99/4A called Rock Runner.

Rock Runner is the best executed, best designed, and most exciting game released for the 99/4A in years!

To run the demonstration place your Editor/Assembler module in the cartridge port, place a disk containing this demonstration in drive one, and type DSK1.DEMO from the E/A option #5 prompt. The demo will automatically load and start after a 2 minute or so pause.

P.S. The author of this game is only 19 and this is the first program he ever wrote for the 4A - pretty scary - huh?

Rock Runner The Game
==========
Requirements

- TI-99/4A
- Editor/Assembler module
- 32K
- Disk drive
- Joystick

Loading and running the program

Select 2.Editor/Assembler, 5.Load and Run, and load the program. It will start automatically. If you quit the program you can restart it by selecting option 4.Run and pressing <enter>.

At the title screen you can select a screen by moving joystick #1 or #2 up or down. There are 15 screens available (lettered A through O). Press the <fire>-button to start playing the selected screen.
The object of the game is to collect as many diamonds as possible, digging tunnels, setting up traps, and all this without being hit by a falling rock or by one of the moving creatures. An important part of the game consists in exploring the world and its various inhabitants. The character is controlled using the joystick.
At the top of the screen some information is displayed:
- BOMBS: The number of bombs you are currently carrying. If you find one, you can pick it uo for use later one. You can set a bomb by pressing <fire> and running away. It will explode shortly afterwards, leaving a 3 by 3 hole. Bombs can be useful to blow up unfriendly creatures or to create -$DME * through solid rock. you've collected so far vs. the number of diamonds you need to finish this screen. You may collect more diamonds than strictly necessary ot' earn some extra points.
- TIME: The time you have left to complete this screen. This time is added as a bonus if you finish the screen.
- SCORE: The current score. You receive points for every diamond you collect and for ending a screen successfully. - Some hearts: These indicate the number of spare lives you have left.
During the game you can use the following keys:

- <enter>: Pause. Press <enter> again to continue.
- <space>: Advance to the next screen if this one has been completed, or give up otherwise. The latter may be useful if you've manoeuvred yourself into a hopeless situation.
- <redo> or 8: Restart the game on the same screen.
- <back> or 9: Return to the Rock Runner title screen.
- <quit> or =: Return to the master title screen.

Conditions

This program may be distributed freely. It is provided "as is" and comes with solutely no warranty.

More information

As you may have noticed the game is inspired on the excellent arcade game Boulder Dash, with some slightly different features. Most notably the use of bombs is a nice touch not present in the original game. The program has been written using the Mini Memory module, the line-by-line assembler, a 32K expansion and a cassette recorder. The game code fitted entirely inside the 4K module RAM, while the program data were stored in the 32K. The game uses an undocumented graphical mode in order to get some more colorful graphics than previously possible.
In the past Rock Runner was marketed by Asgard Software. That contract has expired now and the game has been put into the public domain.
If you have any comments, please contact the author at the address below. Have fun!
Eric Lafortune
E-mail: ericlcs.kuleuven.ac.be Snail-mail:

Rijweg 120
3020 Herent
Belgium

Other games on disks.

Artillery: A two player game that you input the degree and speed of your shell. Players take turns until on of the Artillery Guns is destroyed.

Clock: A simple BASIC game for kids to learn how to read both types of clocks.
A one player game.

Spy's Demise: A classic game that looks easy but is not. killed. A one player game.

```
*CLOCK       2 Prog *README      4 d 80
ARTILLERY   43 Prog ARTLOAD      2 Prog
CLOCK       38 Prog DEMO        27 Prog
DEMP        18 Prog DEMQ        18 Prog
* DEMQ       18 Prog
* DEMQ       18 Prog
* DEMQ       18 Prog
DEMR        18 Prog DEMS        14 Prog
DEMT         7 Prog LOAD         5 Prog
ROCK        18 Prog ROCKDOC     15 d 80
ROCL        18 Prog ROCM        18 Prog
ROCN        18 Prog ROCO        14 Prog
ROCP         7 Prog ROOT        28 Prog
SPY'S/DEM   21 Prog
```

Diskname AT063
Total Sectors 358 Free Sectors 3
Date FEB1994 Files 20

Page Pro pictures scanned by Alf and cleaned up and converted by me.

```
4THJULY      14 I 13 BASEBALL      14 I 13
BATHTUB      15 I 13 BOAT          21 I 13
CAKECHEF     14 I 13 CAR           20 I 13
CASTLE       23 I 13 CUP            6 I 13
DINOSAUR     15 I 13 EBASKET       27 I 13
EYE          13 I 13 FOOTBALL      13 I 13
GLOBE        25 I 13 HUNGRY        27 I 13
LION         23 I 13 MOON          12 I 13
OWL          24 I 13 PHONE         12 I 13
PILGRIM      22 I 13 PLANE         15 I 13
```

Diskname WONDERWORD G064
Total Sectors 358 Free Sectors 287
Date FEB1994 Files 9

```
FRED       2 d 80 LOAD       2 Prog
LOADER     4 Prog MENU       6 Prog
PTRCFG     2 d 80 SYSCFG     5 Prog
WONWRD     25 Prog WONWRD_DOC 9 d 80
WORDSIN 16 Prog
```

WONDER WORD PUZZLE GENERATOR
Version 3.01

The program on this disk is designed to create word puzzles. It has no frills and is released under the condition that I retain copyright so that it may not be offered commercially without my written permission.
I do not, however, request any payment from private users. Please use it and enjoy it.

SPECIFICATIONS:

The program has had to be limited in certain ways in order to fit within the memory requirements of the TI99/4A. Those limitations are listed below.

MAXIMUM NUMBER OF WORDS: 40

MAXIMUM SIZE OF PUZZLE: 30 by 30

(This makes quite a big puzzle!!)

The files required to operate the program are:

LOAD
LOADER
MENU
SYSCFG
WORDSIN
WONWRD

Although all of these files could have been combined into one or two larger files, I have decided to leave them separate for two main reasons:
1. So that I can easily update the various functions of the program without having to spend time searching for the routines I wish to alter.
2. So that anyone who wishes to know may learn how the program works.

HOW TO USE THE PROGRAM:

1. Use the configure option to set up the control string for your printer. [if you use either FunnelWeb or TI Writer you will find that the printer control string used for the editor (NOT the formatter) will probably be the<<ct for this program]
>>first time you use the <<
>>program. <<

2. Use the appropriate selection to enter your word list and save it to a file on your disk. a sample wordfile called FRED is located on the program disk.

3. Select the MAKE PUZZLE option and make sure that your printer is attached, turned on and selected.

4. Have fun trying to find the words in the puzzle you have created.

Above all,
HAVE FUN!!!

Ashley Lynn

END OF ARTICLE

LEARN TO KNOW YOUR TI
NO.12

with Percy Harrison

Well, I finally did it, I goofed up in Lesson 11. This is what happens when you don't proof read your article before you send it off to the Editor. In fact I didn't check the article until I read it in the magazine and was really horrified to see so many mistakes which unfortunately occurred because I changed the line numbers after finishing the article and forgot to correct it in the text.

The first correction that you need to make is under the heading "COUNT DOWN LOOPS" on page 10 in the third line of the paragraph starting with "Line 40". Change "3000" to "4250" to match the value in line 60 of the program.

The other set of corrections to make is in the sections "NESTED LOOPS" and "LOOP VARIABLES":

Change the numbers 40, 61, 62 and 70 to 30, 51, 52 and 55 respectively wherever they appear in these two sections.

My apologies for these errors but as no-one has reported them to me I just wonder how many of our readers bother to read this series of articles. Is it really worth the time and effort that it takes to prepare and type up each month?

This lesson will introduce you to Random Numbers (RND) and the Integer Function (INT) which are two very important functions used in games and also are handy in making interesting displays like kaleidoscopes.

The RND function produces psuedo-random decimal numbers between 0.0 and 1.0. Such numbers are directly suitable as probabilities, but integers over some range such as 1 to 6 for a dice, or 1 to 13 for a suit of cards are often more to the point. Best we get on with the lesson so that you will get to know how to use these two functions in a program.

LESSON 12 RANDOM NUMBERS AND THE INT FUNCTION

THE RND FUNCTION

When you throw dice you can't predict what numbers will come up or when dealing cards you can't predict what cards each person will get.

The computer needs some way to let you "roll dice" and "deal cards" and do many other unpredictable things.

Use the RND function to do this. RND stands for "random".

Run this program:

```
10 REM RANDOM NUMBERS
15 CALL CLEAR
20 FOR I=1 TO 20
25 LET N=RND
30 PRINT N
40 NEXT I
```

You see a lot of decimal numbers on the screen. The RND function in line 25 made them.

RND gives numbers which are decimals larger than 0 but smaller than 1. To make numbers larger than one, you must multiply.

Change the program above to:

```
25 LET N=52*RND
```

and run it again.

Now the numbers are between 0 and 52 in size. They could be used for choosing the 52 cards in a deck.

But: We usually want whole numbers like 7 and 23 rather than decimal numbers like 7.03 and 23.62. To do this we use the INT function.

THE INT FUNCTION

"INT" stands for "integer" which means "whole number".

The INT function takes the number in its parentheses and throws away the decimal part, leaving an integer.

Try the INT function in this little program:

```
10 LET I=INT(6.3)
20 PRINT I
```

And in this:

```
10 LET X=0.3
20 PRINT "X=";X;TAB(10);"INT(X)=";INT(X)
```

And this:

```
10 LET X=0.3
20 LET Y=2.5
30 LET P=X+Y
40 LET Q=INT(X+Y)
50 PRINT P;Q
```

Look at the answers to see that the decimal part was thrown away.

Try this:

```
10 REM ----- INT -----
20 CALL CLEAR
30 PRINT"GIVE ME A DECIMAL NUMBER "
32 INPUT D
35 LET I=INT(D)
36 PRINT
40 PRINT "DECIMAL ";D;TAB(15);"INTEGER ";I
41 PRINT
42 PRINT
50 GOTO 30
```

ROLLING THE BONES

Usually dice games use two dice. One of them is called a "die". Here is a program which rolls a single die:

```
10 REM ////// ONE DIE //////
20 CALL CLEAR
30 LET R=RND
40 PRINT "RANDOM NUMBER ";TAB(15);R
50 LET S=R*6
55 PRINT "TIMES 6 ";TAB(15);S
60 LET I=INT(S)
65 PRINT "INTEGER PART ";TAB(15);I
70 LET D=I+1
75 PRINT "DIE SHOWS ";TAB(15);D
77 PRINT
80 PRINT
82 FOR T=1 TO 200
83 NEXT T
85 GOTO 20
```

WHAT GOES INSIDE THE ()?

Numbers: `10 LET X=INT(34,7)`

Variables: `10 LET X=INT(J)`

Expressions: `10 LET X=INT(3*Y+2)`

Functions: `10 LET X=INT(RND)`

Here is how to save a lot of room.

Instead of:

```
30 LET R=RND
50 LET S=R*6
60 LET I=INT(S)70
```

Use just:

```
70 LET D=1+INT(RND*6)
```

AND DELETE LINES 30, 40, 50, 55, 60 AND 65.

EVERY PROGRAM RUN IS DIFFERENT

Each time you run a program, you want different cards or dice to show. Suppose your die rolls 5 on the first roll after starting the program. If you stop the program with FCTN CLEAR keys and then start it again, you want a different number than 5 to show (usually), but you will always get the same number unless you do something about it! Use command RANDOMIZE early in the program to make the computer choose a different random number than it did on the previous run. Example:

```
10 REM MIXED UP
20 RANDOMIZE
30 PRINT INT(100*RND)
```

Run the program several times without line 20, then several times with line 20.

Assignment 12:

1. Write a program which "rolls" two dice, called D1 and D2. Show the number on D1 and on D2 and the sum of the dice. You do not need the variables R, S and I in the program above. They were used to show how the final answer was found.

2. Write a "paper, scissors and rock" game-you against the computer. (Paper wraps rock, rock breaks scissors, scissors cut paper). The computer chooses a number 1, 2 or 3 using the RND() function: 1 is paper, 2 is rock and 3 is scissors. You INPUT your choice as P, R or S and the computer figures out who won and keeps score.

ANSWERS TO LESSON 11

Assignment Question 11A

```
10 REM COUNTING BY FIVES
15 CALL CLEAR
20 FOR I=5 TO 100 STEP 5
22 PRINT I
24 FOR T=1 TO 100
26 NEXT T
30 NEXT I
```

Assignment Question 11B-1

```
10 REM PRINT NAME 15 TIMES
20 CALL CLEAR
25 PRINT "YOUR NAME? "
27 PRINT
30 INPUT N$
33 CALL CLEAR
35 FOR I=1 TO 15
40 PRINT N$
45 NEXT I
```

Assignment Question 11B-2

```
10 REM YOUR NAME IS CLIMBING
20 CALL CLEAR
25 PRINT "YOUR NAME? "
27 PRINT
30 INPUT N$
33 CALL CLEAR
35 FOR I=1 TO 15
40 PRINT TAB(2*I);N$
45 NEXT I
```

Assignment Question 11B-3

```
10 REM FRIENDS
15 CALL CLEAR
20 PRINT "YOUR NAME?"
25 INPUT N$
30 CALL CLEAR
35 PRINT "FRIEND'S NAME?"
40 INPUT F$
45 FOR I = 1 TO 5
50 PRINT N$
55 PRINT F$
60 PRINT
65 FOR T=1 TO 300
70 NEXT T
75 NEXT I
```

Assignment Question 11B-4

```
10 REM LOOPY TUNES
20 FOR I=1 TO 3
22 CALL SCREEN(2*I+1)
25 PRINT "SING"
26 PRINT
27 PRINT
30 FOR J=1 TO 3
34 CALL SOUND(300,200*J,10)
35 PRINT "TRA"
36 PRINT
40 FOR K=1 TO 3
44 CALL SOUND(200,200*J+50*K,10)
45 PRINT "LA ";
50 NEXT K
51 PRINT
52 PRINT
55 NEXT J
56 PRINT
57 PRINT
60 NEXT I
```

Hope you followed my advice and did some revision over the christmas break as the more practice you do the easier you will find it to master programming.

That's all for this month.

END OF ARTICLE

TECHO TIME

RAMdisk Batteries

By Geoff Trott

I was looking at a RAMdisk with 8 Kbyte static RAM chips which was mis-behaving. It had two layers of chips soldered in and was not keeping its contents. I have a bit of trouble with these boards as my usual testing setup does not agree with them. To make testing easier for me, I have a precursor to the two way interface which I can plug into the side of my console and into which I can plug a PEBox card with the components uppermost. For some reason, the 8 Kbyte RAMdisk gives errors on its memory test, whereas the 32 Kbyte RAMdisk is fine but they both will work in a BEBox. One day I will track it down and work out why. Meanwhile I was trying to find out why this RAMdisk was not working properly. Its battery was a Lithium one, which was not flat, so I measured the current which was being drawn from the battery and found that it was 0.4 mA. This seemed to be too much to me, so I started to look for problems.

I removed the diode which leads from the 5 volt supply to the battery supply, which may have had a reverse leakage problem, but$tlmw$removed the only memory chip in a socket (U11) and found that the current barely changed. Even though there were 24 other memory chips, they should not be drawing all that current. I then decided that the only possibility was a bad memory chip or one of the decoupling capacitors (0.01 uF) connected to the battery power supply. Since it was easier to unsolder the capacitors that the ICs, I unsoldered one leg of all the capacitors. That caused the current from the battery to fall to about 0.004 mA, which was much more like the expected value. I found that one capacitor measured 15 kohm and when it was replaced with a new one, the current from the battery remained at the low level. While soldering near another capacitor, I found that I created the same problem, so excess heat is one probably cause for the capacitors to start to leak. The heat probably melts the dielectric in the capacitor.

I write about this as it may cause a problem for others with batteries which are not being re-charged, or even with all batteries and only occasional use. It is easy to measure the current for a system without re-chargeable batteries, as there is a diode which the meter can be put in parallel with. It is harder with re-chargeable batteries, as there are only small resistors to measure the current with. I have written before about my preference for normal batteries, as I have seen too many printed circuit boards damaged by chemicals from re-chargeable batteries. It is obviously very important to minimise the current drawn from normal batteries.

Cadet batteries

About the same time as I completed the repair on the RAMdisk, I decided to replace the batteries in the

club's Cadet system. This is the very neat addition to a basic system, designed and built by Colin Christensen in Brisbane. It plugs into the console and provides 32 Kbyte memory expansion, PIO printer port, TI-Writer editor and formatter in ROM and battery backed memory to store program and text files. There are other rather neat features as well but I recommend you ask at the club for a demonstration and read the reviews for more information.

As I was saying the club's Cadet had been sent back to Brisbane for an upgrade and came back with a flat battery. I took it apart and found that it took a disk lithium battery, which was soldered in. It certainly was flat, so I bought a new one and prepared to solder it back in. While I was doing this, I decided to check that the current was small and found that it was 4 mA!! This was far too much for this type of battery so I now knew why it had discharged so quickly. It took a bit of poking around as I did not have a circuit diagram, but I eventually found the problem. To explain it I will have to tell you some details of the device.

There are three memory chips used, an eprom for the DSR and TI-WRITER programs, and two 32 Kbyte static RAM chips. These are stacked on top of each other as most pins are common. The EPROM is on the bottom. The 32 Kbyte memory expansion is next with its power coming from the 5 volt supply, the same as the EPROM. On top is the 32 Kbyte file storage RAM which is battery u *the 5 volts is not there. Inither from the 5 volts when$mt order for the contents of this memory to be kept, the CS(L) (chip select line) must be held high when the 5 volts is not there and the chip is powered from the battery. The static RAM enters its power down mode when the CS(L) goes High. This is done by putting a resistor between the CS(L) pin and the battery supply, and driving the pin from an open collector output. This has all been done correctly, but the problem was that the signal to the CS(L) pins for the two RAM chips (on top of the EPROM) are connected to the pins on the chips by wires from the board. Unfortunately, these wires were crossed over (which was difficult to see) so that the CS(L) line for the battery backed RAM was actually connected to the RAM whose power was connected to the 5 volt supply. When the power supply was removed the battery then had to supply the whole chip through the CS(L) line while the RAM with the battery supply had its CS(L) line held low which means it was not able to enter its power down mode. The result was a large current from the battery and a flat battery.

You may wonder why this was not found more quickly. I imagine that when the 5 volt supply is present, the function of the two memories is interchangeable so that all would appear to work well. I imagine Colin Christensen would be able to tell with a careful check. I hope there are no other Cadets with the same problem, but if there are it is very easy to fix.

END OF ARTICLE

MAIL FROM : SHIFTY

IF anyone is inetrested in a program that can work on IBM and the TI ie files are interchangeable please show your interest at the upcomming meeting. The program is basically an address book that stores information in text format, which can then be downloaded to the TI and used with no modifications on an equivalent program which I will write for the TI converseley you can upload files from the TI to the IBM and use them with no problems. Note you are not restricted to an address book prog. I just wrote that as an experiment. Bye for now.
Claude.

My Introduction to Computers

To put you in the picture, I hasten to inform you that I have reached the age of 85, after I retired at the age of 68 I found that gardening, lawn bowls and some woodwork was not all that interesting. At that period there was a fair amount of part time work available so I approached an agency, who found me a job with Rank Arena, (guess what), checking computer printouts. For someone who didn't know what a computer looked like, it would appear that as soon as I started I would be pointed at the exit door. Strangely enough there was help provided by the computer programmer as all I had to do was check to see from printouts whether the work was being duplicated unnecessarily. As this was only paper work I lasted three weeks, but I had seen a computer being operated by a clerk, simply by pressing, what looked like a typewriter.
I then went to the nearest Tafe College to enrol In a Computer course. Unfortunately I was a day late, as the class was already full. Not to be disheartened I phoned the Tafe Department. The gentleman in charge, while somewhat impressed that such a well-aged student should want to take on such a demanding course, then explained that the course was four years long, and then one would only then start to really programme. So I went back to gardening , Lawn bowls and more woodwork.
But Lawn bowls proved to be my entry visa. In 1989 I had been playing against Alf Culloden and casually asked him what did he do in his retirement. Alf's answer was the catalyst. "I work with COMPUTERS" was his answer. From that moment I become a victim of COMPUTERITIS . Its not all that painful, but one is subject to forgetfulness, periods of frustration, infrequent bouts of jubilation when by pressing the right keys, the words appear and even a picture comes into view.
Alf then guided me to TISHUG, where I become a member. By means of an advert in the Trading Post I was able to buy a TI-99/4A console, instruction book with several tapes (which didn't do any thing). Then along to Dick Smiths for other parts to make the console function. My wife had won a Sharp Television set, so I had a monitor. Alf set it up, I drew a diagram of the set up, in case something become unplugged by mistake.
Luckily Alf lived about a kilometre away, and as you can imagine he received a call for help every time I found my self stumped.
Terry Phillips gave me a tape with Basic lessons which were very useful and when I moved from cassette to disk, after buying a P.E. box. I actually transferred these lessons to disk. How I did this I now haven't the foggiest notion, but I have now started to use them again, having forgotten most of what they were about. This was due to my greater interest in graphics (TI Artist) etc. However after drawing pictures there would be other matters to be learned and this is becoming very intriguing.
To those newer members I hope you receive as much help from the more experienced members as I have whenever problems arise. My thanks to all those helpful members for those moments of "unfrustration".

BY NEAL NEGAL.

END OF ARTICLE

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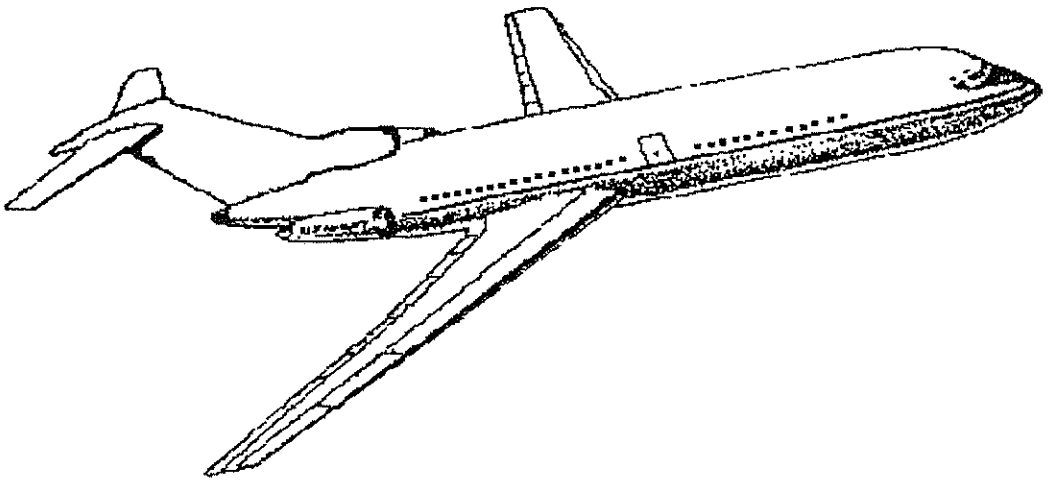

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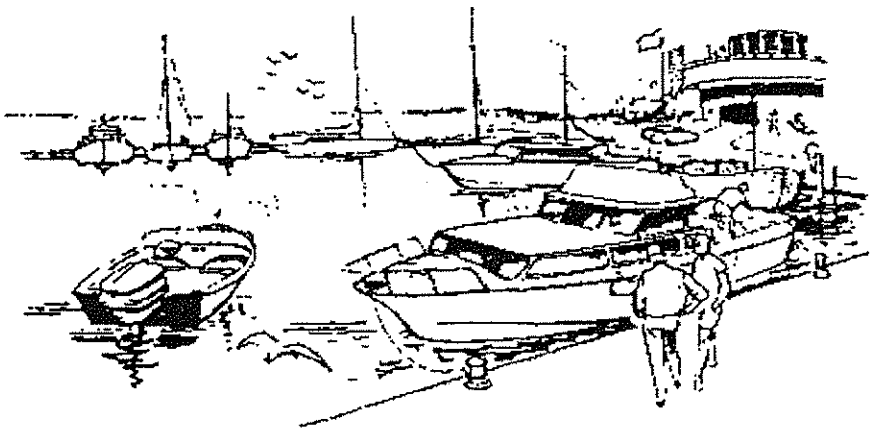


Notes for Funnelweb 80-Column Editor Edition Vn 5.00

Part 2 -- Command and Control

(1) Editor Modes

Each of the Word Processor and Program Editor has two sub-modes, toggled by <ctrl-O>. In word processor these are the familiar word-wrap mode (solid cursor) and fixed mode (hollow rectangular cursor) and are essentially the same as set out in the TI-Writer manual to which you are referred.

In program editor mode, the initial state is a modified and locked fixed mode with hollow cursor and is set up for writing source code in languages such as c-99. Tabs are initialized to Editor Assembler editor settings. Word-wrap is permanently disabled to prevent accidental reformatting of source files into one giant paragraph and <cr>s are never written except in special character mode. <ctrl-O> toggles to the new ASMode (with diamond cursor) for writing assembly source code. In this mode each line is partially parsed as assembler code before it is stored in the text buffer when the cursor leaves the line. The comment, opcode and operand fields are automatically up-cased as required by the assembler and some checking is done for common errors such as unmatched quotes or "." instead of "," in the operand field and non-alpha characters in opcodes.

(2) New and Updated Editor Command Line Entries

Several new command line 2-letter entries have been introduced in various categories. An important and the most obvious change to command mode is that text may be scrolled by line or page using the normal set of up/down scroll control keys. This allows the text to be inspected anywhere during command line entries, so that line numbers do not have to be remembered for large Copy, Move and Delete operations. The new entries are specified here by their English language version.

<T > -- for Tabs is not strictly new, but now brings up a second command line which asks TABSETS (1-9)? and indicates the current setting as the default entry. Nine tabsets may be defined, of which the sets 1 to 3 are saved in document tab records. The current tab line is written into the ruler line when confirmed by <enter> and also when a new file is loaded and a tab record read in. Tab records are saved with files by the Word Processor and not by the Program Editor, but are recognized by both.

<V > -- for View of whatever file is currently in the scrolling view buffer in VRAM. Alternatively this can be reached from SD and the same key controls apply in either case, <Q>, <A> for page scroll, <E>, <X> for line scroll, <ctrl-E>, <ctrl-X> for auto line scroll with <space> to pause and <ctrl-C> to exit.

<H > -- for Help mode brings up a series of up to 4 help screens which were loaded initially, with paging between them by <Q>, <A> and exit by <ctrl-C>. Re-entry to Help is at the last screen viewed on the previous invocation of Help. See FWDOC/ED82 for details of preparing Help screens.

<ST> -- for STore stashes the current edit buffer and all relevant data including workfile name in VDP memory. This is to permit another file to be loaded, edited and saved. Then you can do --

<RC> -- for ReCall of the STored document and all data from storage to resume editing. This store/recall process is much faster for long files than using SF and LF and does not require any disk file space.

<QQ> -- for Quick Quit back to Funnelweb. The editor maintains a "file-edited" flag and if any text entry has been done since loading or saving the current file, a reminder to save the current work first will be issued. This warning also operates before ReCall and Purge.

<LT> -- for LoadTemporary file. The temporary loadfile name may be entered directly, or marked in SD with <T>. This allows for inserting all or part of external files into the edit workfile without disturbing its name.

<DP> -- for set showDirectoryPrinter name. This allows the device name used by <ctrl-P>rint directory in SD to be preset to something other than the PF name. It is initialized to the PF print device at load time.

<MK> -- for MarK position in file. This sets a marker after line number entry, or else enter this with <ctrl-M> at the current top line, which may be scrolled to any line in the workfile while still in CMD mode. <fctn-;> in Edit mode is an alternative method.

<HD> -- for HardDisk pathname instructs SD to read the directory using the catalog pseudo-file for the pathname, running an assembly version of the standard BASIC disk catalog program. The pathname is presented for editing first. The sectors used and free counts may be beyond the normal display range with hard disks and show nonsense values.

<WC> -- for choice of WildCard character for use in FS/RS search strings. This initialized as the "*" character.

< > -- a blank CMD line. On the main CMD line this returns to the Edit mode at the original exit point.

<number> -- from the main command line a number acts like a Show lines command. "E" for EoF is not recognized in this direct return as a letter may conflict with other commands. You can just use a big number, say 2222, instead but it is probably easier to use <S > for Show line.

Some control key presses now have new special functions in CMD mode and mostly were of no function before. Where the new function also applies in Edit mode, it will be listed in that section. For a summary of all key functions see the help screen supplied as HELP00 or else consult the original TI-Writer manual.

<ctrl-M> now writes the current top of page line number at the cursor position on the command line setting insert mode. If you must have <cr> on the command line use <ctrl-8> or special character mode.

<ctrl-N> toggles the VDP between NTSC and PAL display standards. The effect on screen will depend on your monitor.

<ctrl-1> exits from command mode to the current top of page. It has the same effect as <ctrl-M> followed by <enter>.

<ctrl-2> exits from command mode to the departure point from edit mode.

<ctrl-4> cycles through command and ruler line colours with main screen colours still set by <ctrl-3>.

<ctrl-5> toggles the bottom ruler line on and off. Make sure you are in command mode for this as this key in edit mode duplicates the line above the cursor over the cursor line. If you do blunder, immediate use of Oops <ctrl-1> before any other key will restore the line to its prior state.

<ctrl-6> toggles the VDP in and out of interlace mode.

(3) Find and Replace String

Find and Replace String commands now take up to 3 numbers ahead of the string entry. Two numbers give the start and finish column for the search. For 3 numbers or 1 number the first or only number is the number of match occurrences to skip before stopping. This is similar to the Editor Assembler editor. In case you had not noticed, RS always worked like this. Also when no more matches are found, both FS and RS give an audible bloop and stop where they are. The start position for the search is resumed with <ctrl-O>.

Any non-numeric character may be used as delimiter, so that /ABC/defg/ or -ABC-defg- or aABCadefga as RS string entry will all search for string ABC to be replaced with string defg. A wildcard character, set by <WC>, can be included in the search string. The search procedure ignores the character in the text line corresponding to each wildcard occurrence in the search string. Neither delimiter or wildcard can be a regular part of the search string.

(4) New Edit Mode Functions

Changes have been made to the edit control keys so that many functions are available from the left hand in a compact block without stretching. Some keys were already in place such as the cursor diamond <ctrl-E>, <ctrl-S>, <ctrl-D>, <ctrl-X> which duplicates <fctn-E>, <fctn-S>, <fctn-D>, <fctn-X> and <ctrl-C> as shadow of <fctn-9>.

<ctrl-Q> pages towards the start of file (<fctn-6>).

<ctrl-A> pages towards the end of file (<fctn-4>).

<ctrl-Z> places the cursor after the end of the current line and is no longer the alternate Oops key which remains on <ctrl-1>.

<ctrl-H> shows the first page of the file.

<ctrl-J> shows the last page of the workfile.

<ctrl-B> breaks the current line at the cursor in all modes, but does not enable <cr>s with <enter> in word-wrap mode. In word processor fixed mode it replaces <fctn-2> which splits the line only in wordwrap mode.

<ctrl-R> rejoins lines broken by <ctrl-B>. More precisely, in wordwrap mode in the word processor it remains as an alternative key to <ctrl-2> as reformat. In all other modes it inserts the contents of the next non-blank line (blank includes paragraph break lines with <cr> only) into the current line at the cursor position. Leading spaces and trailing spaces and <cr>s are trimmed from the inserted material. If the effect displeases, just use Oops <ctrl-1> immediately. So there is now a way in the various fixed modes to insert material into a line without having to retype it.

The redefined <ctrl-H>, <ctrl-J> no longer duplicate <ctrl-6>, <ctrl-4>. In Program Editor <ctrl-4>, <ctrl-6> search, instead of for <cr>s marking paragraphs, for either asterisks "*" in the first column as marking assembly comment lines, or for the c-99 comment delimiter "/*" at the start of a line. Strictly speaking, the search is for the first non-blank line following the target item. This substitutes jumping between comment lines in source code for paragraph jumping in word processor text. It also removes the annoyance of time consuming traversals to the start or end of source files if these keys are accidentally pressed in program editor mode.

Some minor changes have been made to improve safety and convenience in editing. <ctrl-N> in Edit mode now inserts a New line to avoid unintended deletions when NTSC/PAL toggle was intended. This also matches usage on PCs, as in Borland editors.

<ctrl-F> now freezes the edit screen below the cursor line, and normal editing and scrolling take place in the upper part of the screen. Entering command mode or pressing <ctrl-F> again clears the frozen part to normal. In 80-column mode the colour of the frozen part of the screen changes to the secondary colour set. In 40-column mode a solid line is drawn across the screen on the line below the cursor and the screen below that remains frozen. Horizontal windowing does not shift the frozen part in 40-column mode.

<fctn-;> sets a bookmark for the line at the current cursor line. It is equivalent to MarKing in command mode.

<fctn-=> effectively does a Show Line with the currently marked (<fctn-;> or MarK) line at top of screen. It is reasonably intelligent in the face of changing workfile contents and if confused reverts to line #1.

<ctrl-O> returns to the Original line after some operations such as <ctrl-=>, RS and FS.

<ctrl-M> in the Program Editor only, inserts a blank line following the current line and places the cursor on the new line under the first character of the current line. If this line was blank the cursor stays in its current column. It retains its New Para function in word processor mode.

<ctrl-2> in the Program Editor only, deletes the current line if and only if it is blank between the current left and right margins. This makes it a lot safer for deleting a bunch of blank lines than <ctrl-3> which can do real damage in careless moments. It remains as Reformat in word processor word-wrap mode (solid cursor).

<ctrl-,> has effect only in All-Chars mode. To show high bit setting is toggled in, the baseline moving marker changes to a hollow arrowhead. In this mode the most significant bit of character entries is set. As the <ctrl-U> special character function allows regular control character (ASCII code below 32) entry, any character value except >FF can now be entered into the text buffer. Patterns so displayed depend on the character set currently loaded. One of the help screens provided shows the character pattern associated with each key combination and blank if the keycode is not available in the particular mode (eg Euro-Writer mode shows patterns only up to >A7 (ASCII 167)). Other help screens supplied show the 8-bit All-Chars characters in various ways.

<fctn-,> in Euro-Writer mode only, modifies the normal vowel under the cursor to one with a circumflex accent. Vowels so modified must be retyped to normal form for changing the accent.

Some of the modified forms may already be available in some national character files as alternative versions of regular 7-bit ASCII codes.

<fctn-.>, <fctn-/>, <ctrl-/> similarly apply umlaut, grave and acute accents respectively.

(5) Performance Enhancements

This update retains all enhancements of recent versions over the TI original and those not mentioned elsewhere in these notes are listed here.

(i) Text buffer capacity in 7-bit modes is increased by improved encoding, the degree depending on buffer contents.
(ii) The colour selections using <ctrl-3> and <ctrl-4> are the 10 configured in Funnelweb using CF/CG.
(iii) The printer device-name is read in from the main program and used as default for PF and directory <ctrl-P> printout in SD.
(iv) The current Funnelweb system workfile name is used as LF and SF default. At the initial Funnelweb load a default workfile name may be configured with CF/CG into Funnelweb. If left blank the default utility pathname or the pre-existing filename will be set. If your system has 32 Kbyte RAM in battery backed form, as on some RAMdisks, it may well survive power cycling if not otherwise wiped out by programs such as MENU on HRDs. Use FW as your auto-boot program on HRDs.
(v) The <fctn-=> system Quit key (<fctn-=>, <ctrl-=> in AVPC machines) remains disabled at all times while in the Editor, including SD.
(vi) The text buffer manager routines have been completely rewritten and screen painting has been speeded up slightly to give "crisper" screen scrolling. Delay in word-wrap has been reduced so that there is less problem with loss of keystrokes and Reformat is faster.
(vii) Delete Lines is greatly speeded up, particularly on freshly loaded files.
(viii) Copy Lines is now very rapid and does not leave partial copies if 'Text Buffer Full' would occur.
(ix) Move Lines is now instantaneous and no longer can cause the 'Text Buffer Full' condition. It now merely shuffles line numbers instead of copying and then deleting. I have a suspicion TI's programmers were following big company rules for structured programming, with the usual result of bloated and slow code.
(x) A right margin warning beep has been incorporated as a beep occurring 8 spaces in from the right margin during typing.
(xi) Alpha case conversion is provided, in either Edit or Command modes. <ctrl-;> converts a lower case letter under the cursor to upper case and <ctrl-.> below it on the keyboard converts upper to lower case, with auto-repeat.
(xii) The End-of-File message has been replaced with a full width ruler line which shifts with window and line number selection.

(xiii) The margin release key <ctrl-Y> now gives full release on both left and right margins.

(6) Minor Variations

The horizontal windowing is still present in 80-column modes, but is only 6 columns shift. When line numbers are suppressed (load time default in word processor) the <fctn-5> horizontal shift function has no effect. When line numbers are displayed (program editor default), the effect is to toggle between these states and taking the cursor past the right margin shifts over to the window without line numbers.

(7) No Longer Supported

The Recover Edit <RE> function from the command line is no longer included. This had lost most of its original function in Funnelweb as the text buffer contents are overwritten on return to Funnelweb, unlike the original TI-Writer which returned to GPL code in the module GROM. As noted above under <QQ> Quick Quit, a warning is issued if the file contents have been added to since last loading or saving. This matches common practice on PCs. The Oops line recovery function remains unaltered on <ctrl-1>.

END OF ARTICLE

Bits and Bites

By Larry Saunders

For All Those Before
1945

WE ARE SURVIVORS!!!!

Consider the changes we have witnessed:

We were born before television, Penicillin, Polio shots, Frozen foods, Xerox, Plastic, Contact Lenses, Fresbees and "The pill."

We were born before Radar, Credit Cards, Split Atoms, Laser Beams and Ballpoint Pens, before Panty-Hose, Dishwashers, Clothes Dryers, Electric Blankets, Air conditioners, Drip-dry clothes and before man walked on the moon.

We got married - first - and them lived together. How quaint can you be?

In our time, closets were for clothes, not for "coming out of." Rabbits were not Volkswagons, and having a meaningful elongD ** *fast food was that you ate during Lent, and outer space was the back of the Metro Driving Theater.

We were born before house-husbands, gay rights, computer dating, dual careers and computer marriages.

We were born before day-care centers, group therapy and nursing homes. We never heard of FM radio, tape decks, CD players, VCR's, electric typewriters, artificial hearts, word processors, yogurt, guys wearing earrings, and guys with long hair. For us, time-sharing meant togetherness - not computers or condominiums; a chip meant a piece of wood; hardware meant hardware, and software wasn't even a word!

In 1948, Made in Japan meant junk and the term making out referred to how you did on your exam. Pizzas, McDonald's and instant coffee were unheard of.

For sixpence (five cents) or less you could ride on a ferry, buy a icecream cone, ride a tram, make a phone call, buy a Pepsi, a coffee, or enough stamps to post one letter and two postcards.

In our day, cigarette smoking was fashionable, grass was mowed, crack was a fissure in concrete, fix was to repair, coke was a drink and pot was something you cooked in. Rock music was a grandma's lullaby and AIDS were helpers in a hospital.

We were certainly not born before the difference between the sexes was discovered, but we were surely born before the sex change; we made do with what we had, and we were the last generation that was so dumb as to think you needed a husband to have a baby!

No wonder we are so confused and there is a generation gap today!

BUT WE SURVIVED! WHAT BETTER REASON TO CELEBRATE!

C O N T I N U E D N E X T M O N T H

JUST A ONE LINER (ED)

Keep smiling it makes everybody wonder what your up to.

Word Puzzle

by
Ashley Lynn

I am writing this short article on my trusty old TI to explain the functioning of my WONDER WORD program. I have no intention of boring you with the details of the basic IO routines which you are either already aware of or can easily find in the Extended BASIC reference book. I will confine my discussion to the core of the program.

The main body (engine if you like) of the program takes a file of words and fits them into a grid in any one of eight (8) directions. To do this the program must perform several functions.

1. Lines 680 to 700
   Here the words to be used for the puzzle are sorted by length. If you are not familiar with it, this is a basic BUBBLE SORT. It is a bit slow, but comes in very handy when you want to put a list in some sort of order. It's easier to put the longest words into the puzzle first.

2. Lines 710 to 740 provide the data needed to set the words in the grid in a particular direction.
   The vectors DXY(i,1) and DXY(i,2) select the direction in which the word will flow. To get an idea of what I mean, have a look at the DATA statement in 730. Take these data as pairs [eg. (0,1) (1,1) ....] and consider them as part of a 2-D grid where (1,1) means one to the right and one down. Thus if the word starts at grid position (3,5) the first letter of the word is at (3,5) the next is at (4,6) the next at (5,7) and so on.

eg.
```
..............
..............
..............
..............
..A...........
...S..........
....H.........
.....L........
......E.......
.......Y......
..............
```

   Likewise if the pair is (1,-1) then the word would flow up and to the right etc.
   The second data set is used with a randomising statement to select which one of these directions will be used with which word. You will notice that the odd numbered pairs in the previous set each contained a zero (0). As a zero forces the word to go either vertically or horizontally I have attempted to bias the selection of word direction 6 to 1 in favour of the diagonal placement. Others may choose differently and if you were writing a Crossword Puzzle generator, you would completely leave out the diagonals.

4. Line 780 selects a starting point for the word and 790 selects a direction of flow.

5. Lines 800 and 810 see if there is room for the word in the grid and lines 860 to 880 see that the letters of the word don't clash with the letters of words already fitted into the puzzle grid.

6. Lines 910 to 950 place the word into the puzzle.

7. Lines 984 to 999 allow you to input a message to be placed in the puzzle which will be revealed when the puzzle is completed. Lines 995 to 999 break the message into it's component letters and omit the blanks and other punctuation.

8. Lines 1000 to 1006 put the message into the puzzle in the first available blank spaces and then fill the rest of the blanks with random uppercase letters.

9. Lines 1010 to 1030 do another BUBBLE sort, this time to place the words in alphabetical order so that they can be printed below the puzzle.

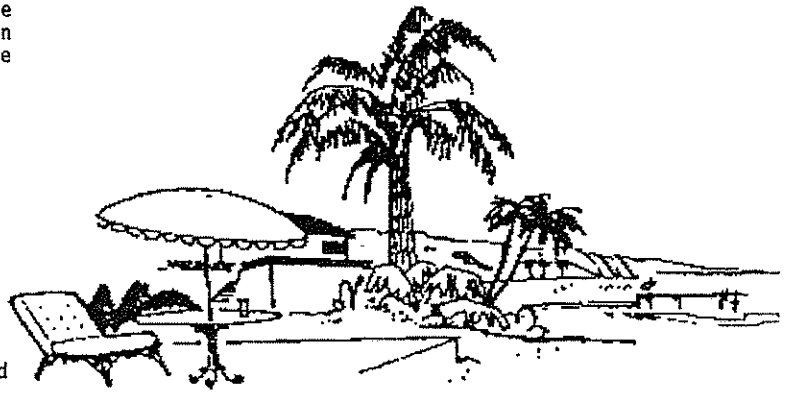
10. Lines 1115 to 1140 print out an answer key if you requested one back in line 140, otherwise it just prints the puzzle.

11. Lines 1160 to 1219 print the words to be found in the puzzle. These are printed with the coordinates of their first letter if it is below the answer key and without them if it is not.

I realise that my explanation may be a little brief in some areas, but if you look carefully at the code you should not have too much trouble following it. The program would be better if I had written it using subroutines, and I may rewrite it using them when I translate it into an exe file for use on the DOS machines, but for demonstration purposes it is better this way.

The code is broken up into several smaller files due to a memory problem caused by the various matrices used. Please enjoy the program and modify it for your own needs. My only request is that you remember to acknowledge the source of the code.

END OF ARTICLE



MAIL FROM : CHEMTECH

I found the article in the latest TND, about using the TI joystick port to control a burglar alarm system, very interesting.
I mainly use IBM compatible machines now, as that is what I have at work, but have long been interested in using the TI in some special-purpose role. I'd like to expand on the burglar alarm concept to include door bell presses, phone rings etc, and record all these events on disk or printer. I'd be interested to hear from anybody else with an interest in this sort of application. I'm not experienced in assembly but would be interested in a routine to control external relays using the cassette tape control function.
Best wishes to all TI users. Hope to be able to get to the next meeting.....Tony Beuermann

(Well Tony you are one of many readers who would like to put their spare T.I. to work, I am sure that at the next meeting someone would be able to point you in the right direction ...ED.)

MAKING AN AUTOEXEC.BAT FILE

by DANIEL HARRIS

Daniel Norman Harris as well known to members of TISHUG I have been a member since about 1985, having bought a Texas Instruments 99/4a to do some Tech work at home for the Computer in Chemistry and Metallurgy Certificate. I am writing this on an IBM COMPATIBLE with built-in Monitor, twin drives, built-in printer, flag fall almost exactly what I paid for the console plus power supply back in 1984, it cost me $200 for this unit, $199 for the Texas Instruments. I had been saving up for an expansion box, people then expected to get $200 for such a thing, but in one hit I got the whole kit for black and white printing. The bare bones kit was sold to me cheap because the man selling thought it could not be expanded, but I know lots of handy little men, and before long it had 512k of RAM and a co-processor and I was wishing to push it to 640k and add a hard drive. That looks like costing $250. There is not that much programming one can do on an IBM unless one wants to use the BASIC, or any one of a growing collection of shareware compilers I am amassing, including a SNOBOL, but for most jobs you need to do an AUTOEXEC.BAT which is the program you can put inside DOS to make the machine work automatically. If you will recall I am the man who found out how to make Cassette operation automatic on the TI/99-4a, so maybe I have a nose for hidden robots.

Auto-Exec BATs

First you do a Format with the /S option and then do a SYS so as to prepare a Boot Disk, then onto that disk you do a Copy Con Config.Sys (enter) and type Files=25 then hit Control Z then hit Enter. Without this command a lot of software does funny things, as explained in the documentation and help files, which you cannot load to read because the thing will not go without this command (like having your key locked inside your car!) so always bung it in. Next you do Copy Con Autoexec.Bat (enter) then type all the commands you can think of tnat start programmes you usually run, but just a moment, why not load them from the other drive? As your boot disk goes in the A: drive the program disk might as well go in the B: drive, so the first command in the Autoexec.Bat file is simply B:(enter) which you follow by typing the short group of letters that starts a program you often run, say it is sp for a spreadsheet, wp for a wordprocessor, drw for a drawing program, clc for a calculator program. Your Autoexec.Bat now has

```
B:
sp
wp
drw
clc
and Control-Z(enter)(enter)
```

Now with the computer stone cold you switch on any time you want and stick the boot disk in the A: drive and any of the programs you want in the B: drive and everything takes place automatically from boot-up to loading and you don't have to do any system commands whatsoever but are straight in the middle of the program you selected. There will be a few comments such as "bad command" for programs not on the disk which appear in the batch file, but so what? Enjoy! By the way remember ctrl-alt-del to boot the system, this is the way you can start ALL YOUR PROGRAMS FROM NOW ON!

END OF ARTICLE

ALL THE FOLLOWING ARTICLES ARE REPRINTED FROM "YOUR COMPUTER'S TECH. TIPS" WITH THEIR PERMISSION.

Memory query

I have been a reader of Your Computer *for three years now, and a subscriber for almost as long. I enjoy reading the magazine for the variety of articles and the style in which they are written. Even though I am employed in the computer industry as an analyst, I still appreciate the effort taken by your writers to present subjects in an understandable manner, often starting at the basics.*

I have a few questions which I hope you can answer for me. The first is about memory chips, specifically what size to choose, the type of chips (ZIP, DIP, *or* SIMM), *and chip speed.*

Secondly, my PC *(a '286), has shadow video and* BIOS ROM, *and I am wondering what that means, and how it works. I have also encountered a slight quirk with Windows* 3.0, *when using it with* MS Word 5.0. *I can start Word as an application from Windows, and work on a document. I can switch back to Windows in the normal way, by pressing* Alt-Escape, *suspending the Word session, and bringing the Windows screen back up. However, when I restore the Word session, by double-clicking on its icon, it asks me to 'Select text to copy formatting from', and I cannot move the cursor until I have pressed Escape. I am then returned to the command menu, and have to press Escape again before I can return to the text. This glitch always occurs after swapping the Word session out and in again, and happens on both my work and home machines.*

J. Bruin
Glenbrook, NSW

We're glad you enjoy the magazine, and we intend to keep bringing you informative pieces about the PC industry and the technology driving that industry.

As a general rule, when looking for memory chips to expand an existing motherboard or expansion card, choose the largest size that the card can handle, as it usually

works out cheaper on a per-byte basis.

However, make sure that any memory upgrades that you make are done in increments applicable to the bus width of the computer. So, an XT with its 8-bit bus has to be upgraded in 8-bit increments. In addition to the eight data bits, there is a parity bit, which works in the same way as a parity bit in serial communications — to detect errors in each byte.

So, for an AT or '386SX, the bus width is 16 bits, plus two parity chips, giving a total of 18 chips. A '386 has a 32-bit bus, so any memory upgrade will involve at least 36 chips. At least, it would if all memory chips were 1-bit wide. However, there are at least 3 types of memory chips in common use in PCs. The first of these are the standard 1-bit DIP animals, which are still the most common variety on motherboards.

There are also 4-bit chips, which are common on video boards, which have no parity. However, when these chips are used on memory boards, they are used in pairs (to get 8 bits), plus a single 1-bit chip, for parity. The final type of memory packaging is a SIMM (single inline memory module), which is a tiny printed circuit wafer, with the memory chips surface-mounted on it. These then plug into special sockets on the motherboard, so that they stand out at right angles to it. There are two types of SIMMs around, 8-bit and 9-bit. The 8-bit ones are for Macs, which do not have parity-checked RAM, while the 9-bit ones include the parity bit which PC machines need.

Chip sizes are expressed in terms of the number of bits in the chip. So a single bit 256K chip is 256K bits, not 256K bytes. Nine of these chips will give you 256K bytes, with parity. A four bit 256K chip is 256K x 4, so two of them will give you a byte, and for parity, there needs to be a separate 1-bit chip. Of course, SIMM sizes are in bytes, since they are a byte wide.

The speed of memory chips is important too. If the chips are too fast, there is no problem, you'll just spend more money than you need to. However, if the chips are too slow, the data will not be ready when the processor expects it to be there, and errors will result. This is a major cause of parity errors in a computer. In general, you should use memory chips with the speed recommended for the system or board which they are to be plugged into. The speed required depends on many factors, such as the clock speed of the processor, the number of wait states, the type of processor, and whether or not a cache or other tricks are used.

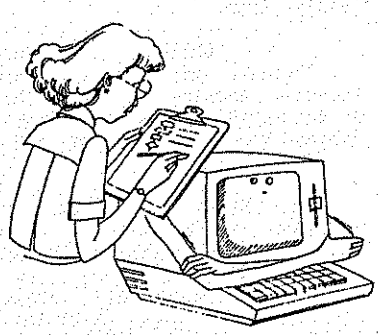
Recently, one of the machines in our office, a 10MHz 0-wait state AT, started to generate parity errors. Upon inspection of the motherboard, we found that the bottom 512K of memory was 100 nanosecond (about right for that speed machine), but the chips making up the extra 128K were only 150ns — a bit slow.

While RAM speeds have increased almost in step with processor speeds, the ROM (read-only memory), chips used for the BIOS on the motherboard, and things like disk controllers and video boards, are still relatively slow. So, any time a program needs to access one of these memories, the processor needs to wait for this slower memory, which slows the whole system down. Some systems allow these slower memories to be copied into spare space in system RAM, where they can be accessed faster.

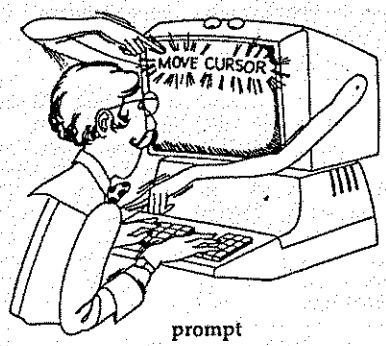
This is known as shadow RAM, or shadow ROM, depending whether you are talking about the shadower or shadowee!

As for your Windows problem, we referred the matter to the technical support staff at Microsoft, who responded that it is a known bug in Word 5.0 when used with Windows 3.0. The bug has been fixed in version 5.0b, which is available free of charge to registered users. Contact Microsoft for details on upgrading.

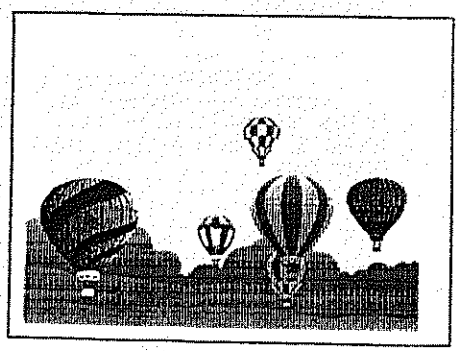
END OF ARTICLE



programmer



prompt



REGIONAL GROUP REPORTS

Meeting Summary For FEBRUARY

Banana Coast	13/2/94 Sawtell
Central Coast	12/2/94 Saratoga
Glebe	10/2/94 Glebe
Hunter Valley	12/2 19/2/94
Illawarra	08/3/94 Keiraville
Liverpool	12/2/94 Yagoona West
Northern Suburbs	24/2/94
Sutherland	19/2/94 Jannali

CENTRAL COAST Regional Group

Regular meetings are normally held on the second Saturday of each month, 6.30pm at the home of John Goulton, 34 Mimosa Ave., Saratoga, (043) 69 3990. Contact Russell Welham (043)92 4000.

GLEBE Regional Group

Regular meetings are normally on the Thursday evening following the first Saturday of the month, at 8pm at 43 Boyce Street, Glebe. Contact Mike Slattery, (02) 692 8162.

HUNTER VALLEY Regional Group

The Meetings are usually held on the second or third Saturday of each month at members homes starting at 3pm. Check the location with Geoff Phillips by leaving a message on (049) 428 617. Please note that the previous phone number (049) 428 176 is now used exclusively by the ZZAP BBS which also has TI support. Geoff.

ILLAWARRA Regional Group

Regular meetings are normally held on the second Tuesday of each month after the TIsHUG Sydney meeting (next meeting 8th March 1994) at 7.30pm, at the home of Geoff & Heather Trott, 20 Robsons Road, Keiraville. A variety of activities accompany our meetings, including Word Processing, Spreadsheets and hardware repairs. Contact Geoff Trott on (042) 29 6629 for more information.

LIVERPOOL Regional Group

Regular meeting date is the Friday following the TIsHUG Sydney meeting at 7.30 pm. Contact Larry Saunders (02) 644-7377 (home) After 9.30 PM or at work (02) 708-1987 Liquorland Yagoona for more information. The next meeting will be on the 7th of January and the 12th of February but the agenda has not been decided yet. There will not be a March meeting.

NORTHERN SUBURBS Regional Group

Regular meetings are held on the fourth Thursday of the month. If you want any information please ring Dennis Norman on (02)452 3920, or Dick Warburton on (02) 918 8132. Come and join in our fun.

Dick Warburton.

SUTHERLAND Regional Group

Regular meetings are held on the third Friday of each month at the home of Peter Young, 51 Jannali Avenue, Jannali at 7.30pm. Peter Young.

TIsHUG in Sydney

Monthly meetings start promptly at 2pm (except for full day tutorials) on the first Saturday of the month that is not part of a long weekend. They are held at the MEADOWBANK PRIMARY SCHOOL, on the corner of Thistle Street and Belmore Street, Meadowbank. Cars can enter from Gale Street and park in the schol grounds. Regular items include news from the directors, the publications library, the shop, and demonstrations of monthly software.

FEBRUARY MEETING - 5th FEBRUARY

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The cut-off dates for submitting articles to the Editor for the TND via the BBS or otherwise are:

March	- 12th March
April	- 16th April

These dates are all Saterdays and there is no guarantee that they will make the magazine unless they are uploaded by 6:00 pm, at the latest. Longer articles should be to hand well before the above dates to ensure there is time to edit them.

****

TREASURER'S REPORT

by Cyril Bohlsen

Income for month of December .... $ 560.00

Expenditure for previous month .. $ 683.52

Loss for previous month ..... $ 123.52

Membership accounted for $ 35.00 of Income.

Shop sales ..... $525.00 of Income.

The expenditure was made up of the following

Purchases for shop stock..... $ 517.56

Xmas BBQ & General Administration. $ 165.96

We have only one new Member to welcome this month,

Benjamin Schneider of South Australia.