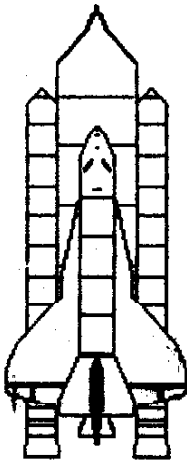


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Brevard Users Group, Inc.

P.O. BOX 1402

Palm Bay, Florida

32906-1402

A Corporation Not For Profit

BUG Volume 3 Number 1

November 1984

President's Message

As you can see from the modified newsletter logo, we are now an Incorporated Non-Profit Organization. That took some doing, but I think we will all benefit a great deal in the long run. I would like to thank our Treasurer, Don Collins for his efforts. I would like to especially thank John Adkins, the lawyer, who donated his time to us. He is, by the way, the newest member of the group. If we have any members who have experience in financial affairs of corporations, or who are CPA's, we desperately need some advice in setting up our records. Please call me or Don Collins if you can help. Your assistance would be greatly appreciated, and now it's even tax deductible!

The last newsletter was very light on the TI information side, as I'm sure you have noticed. The reason is that we are not receiving any articles from you folks for inclusion into the newsletter. We want to make this newsletter the most informative and useful benefit of your membership. To do this, we need your help...in the form of articles. We will accept any article dealing with TI or MS-DOS type computers, as long as it's not for Commercial gain. If you have something you'd like to share with other members, including a review of software/hardware (good or bad), please submit it to the BUG address above to the attention of the Newsletter Editor. Of course, all articles are checked for technical accuracy and we reserve the right to edit all articles we publish.

Speaking of Newsletter Editors, we do not have one. I've been looking for someone to

take over for Kathy. Her work schedule has changed, and she has gone back to college and no longer has time to devote to the Newsletter. Any member who would like to give it a try, or who would like to help, please contact me as soon as possible. The consequences, of course, is no newsletter or at the very least a skimpy one.

During the last meeting we received several suggestions. The suggestion box we set up at the meeting is a way you can let your desires be known. It's also a way to ask questions if you can't find someone to ask at the meeting. I personally go thru the suggestions and will answer (or find an answer) to each one.

One suggestion is to initiate our question/answer period again. I agree. In fact, I should have been doing that all along. At the conclusion of the business meeting each month we will open the meeting to questions (and hopefully answers!) Another suggestion was for an Assembly language class on the 8086/8088 CPU for you MS-DOS folks. This is another good idea, but two things have to happen first: we have to have enough interest from the members (we will count the requests in the suggestion box), and we also have to find someone willing and qualified to teach the class. Any volunteers?

This month's program will see a continuation of Howard Cunningham's class on Assembly Language for the TI. We will also see more on PASCAL from Mr. Pascal himself (Pascal Nelson). Come on out and have a good time. Bring a friend along with you ... a group such as ours thrives on membership and participation. Show your friends how much we can help.

BUG Membership

by Mike Walker

Some of you may be wondering what the results of the recent membership survey were. From the 66 returned surveys (from over 211 families - that's not good!) the following statistics were generated:

The BUG serves 188 family members. These family members own 74 computers (Sanyo = 38, TI's = 27, TRS-80's = 4, Commodores = 3, Seequa = 1, IBM's = 4, Atrai's = 1). Two of the families don't own a computer yet, but know where to turn when they need help.

Of the 66 families, 17 own modems and 45 own printers. The average number of family members is 2.8 per household. If extended over the 211 currently paid-up families, that gives us a membership base of over 598 folks! We must be doing something right!

For those members who haven't filled out the questionnaire yet, please do so as soon as possible. It will help us get an idea of your interests, and will help us convince the computer suppliers that we are serious about computing and their support of us.

CORCOMP NEEDS SUPPORT!

From the 99'er USA

For those of you who haven't heard, CORCOMP has filed for Chapter 11 Bankruptcy. Wait! Before you go tearing your hair out, that only means they are having some trouble, but hopefully nothing they cannot recover from. Unfortunately, when a company does this, wholesalers tend to pull out, and retailers tend to not stock their products any more. As you TI'ers out there know, CORCOMP has been one of the strongest supporters of us and we need to support them in their time of need. Write to all the suppliers of TI products and let them know you want them to continue to supply CORCOMP products.

NEXT MEETING

1984 NOVEMBER 1984						
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3			
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

OFFICERS CLUB:

President.....Mike Walker
Vice President.....Dick Taylor
Treasurer.....Don Collins
Secretary.....Linda McCormick
Member at Large.....Rod Williams

COMMITTEE CHAIRPERSONS

Hardware.....Rod Williams
Program/Education.....????????????????????
Refreshments.....????????????????????
TI Software Library....Jim Hilley
MSDOS Software Library.John Oborn

**SPECIAL INTEREST GROUP:
(SIGs)**

MS/DOS Chairman.....John Oborn
TI Chairman.....Howard Cunningham

NEWSLETTER PERSONNEL

Editor.....Mike Walker
(Very Temporary!!!!)

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TI COMMANDS

by Kathy Frye

There are various commands in TI Extended Basic that, either because they are not understood or because they are not known about, are not used. So I thought I'd share with you some that I've found useful.

The 'LIST' command is one of them. When you are programming in Extended Basic or Basic and you want a hard copy of a line that has bombed, type in the following:

```
LIST "PIO": *line number* ENTER
```

This will list to your printer that line number and you can see where you goofed. "How is this helpful?", you may ask. If you have typed in a 0 instead of a @, the printed copy shows this easier than the screen shows, especially if you have the slash command on for your zero within your printer.

There are other ways to use this command, such as the following:

```
>LIST 100           will list line 100
>LIST 100-         will list line 100
and all lines thereafter
>LIST "TP"        will list program
to a thermal printer.
>LIST "PIO"       will list to the
parallel I/O port.
```

For more information please consult your Extended Basic manual, page 114. Believe it or not the Extended Basic Manual is your Bible for your TI 99/4A computer!

TRACES

(reprint from Calif. BBS Irish Input)

You might have wondered if there is a way to do a Trace under the control of your program. Try this:

```
CALL LOAD(-32699,16) Turns on Trace
CALL LOAD(-32699,120) Turns off Trace
```

Stopping Your Program
(reprint from Calif. BBS Irish Input)

This method of stopping your program will turn off the *Ready* message at the end:

```
CALL LOAD(-32700,0)
```

KATHY'S KORNER

Well folks this is good-bye. I've enjoyed being the editor of the BUG Newsletter and I want to Thank you all for the opportunity to do it. I also would like to Welcome the new editor, Pat Koranda. I hope you all will give her even more help than what you did me. So keep the articles coming in and let's see some more NEW contributors!

Size Command in BASIC?

(reprint from Calif. BBS Irish Input)

You might have wondered if there was any way to get the amount of memory left in TI BASIC. Well, with this you can:

```
CALL PEEK(-31974,A,B)
PRINT A*256+B-1776
```

The figure 1776 is the approximate overhead in TI BASIC. Extended BASIC has a little more!

"OOP"s"

(reprint from Calif. BBS Irish Input)

Here's something interesting that all X-BASIC users will like. Have you ever been typing in a program and hit "FCTN +" instead of "SHIFT +" it's an easy mistake to make but impossible to recover from. "Oops".

CALL LOAD(-31806,16) will *DISABLE* the "Function QUIT" Key! No more lost data while programming in EXTENDED BASIC! And this will also get you in the habit of using "BYE" as an exit from X-BASIC which is a much better way for your programs anyway.

More CALL LOAD(-31806,X): You can disable the QUIT key, SPRITE motion and SOUND or combinations...

```
X=128 All are disabled
X=96 SPRITES and SOUND OFF
X=80 SPRITES and QUIT off
X=64 SPRITES motion off
X=48 SOUND and QUIT off
X=32 SOUND disabled
X=16 QUIT Key off
X=0 Re-enables all functions
```

While SPRITES are disabled, the other SPRITE functions still work. CALL LOAD(-31878,0) also stops sprites. Loading the highest numbered sprite in this address restarts them or starts them selectively by number.

FORTH DEMO PROGRAMS
by CIN-DAY members
Ed York and Rick Mirus

The following two FORTH screens were published in a recent CIN-DAY newsletter. They have kindly granted us permission to reprint these clever examples of the power of FORTH and the 99/4A. The first draws a pattern of lines in the bit-map mode. To run it, first load -VDPMODES and -GRAPH then SCR #31 (or wherever you saved it) and enter A9. The second screen is an interrupt driven clock which will display on your FORTH screen even while you execute other instructions or screens. A warning, since the clock is interrupt driven and some tasks shut off the interrupts (notably I/O tasks) the clock cannot be reliably used in an application program.

```
SCR #31
( GRAPHICS EXAMPLE 1 )
( ED YORK )
( CIN-DAY USER GROUP )
: A0 GRAPHICS2 0 DMODE ! ;
: A1 17 0 DO I 8 * 191 128 191 I 8 * - LINE LOOP ;
: A2 17 0 DO 255 I 8 * - 191 128 191 I 8 * - LINE LOOP ;
: A3 17 0 DO 128 I 8 * + 191 255 191 I 8 * - LINE LOOP ;
: A4 17 0 DO 128 I 8 * - 191 0 191 I 8 * - LINE LOOP ;
: A5 17 0 DO 0 I 8 * 0 128 0 I 8 * + LINE LOOP ;
: A6 17 0 DO 255 I 8 * - 0 128 0 I 8 * + LINE LOOP ;
: A7 17 0 DO 128 I 8 * + 0 255 0 I 8 * + LINE LOOP ;
: A8 17 0 DO 128 I 8 * - 0 0 0 I 8 * + LINE LOOP ;
: A9 A0 A1 A2 A3 A4 A5 A6 A7 A8 ;
```

```
SCR #33
0 ( Clock - to start enter hour 1 - 24 and minute and TIME )
1 0 VARIABLE XX 0 ALLOT 58 XX 2 + C! 58 XX 5 + C! 0 VARIABLE TT
2 : #UPDATE 1 TT +! TT @ 59 > IF 0 TT !
3 XX 7 + 1 OVER C@ + DUP 58 < IF SWAP C! ELSE DROP 48 SWAP C!
4 XX 6 + 1 OVER C@ + DUP 54 < IF SWAP C! ELSE DROP 48 SWAP C!
5 XX 4 + 1 OVER C@ + DUP 58 < IF SWAP C! ELSE DROP 48 SWAP C!
6 47 TT !
7 XX 3 + 1 OVER C@ + DUP 54 < IF SWAP C! ELSE DROP 48 SWAP C!
8 XX 1 + 1 OVER C@ + DUP 58 < IF SWAP C! ELSE DROP 48 SWAP C!
9 XX DUP C@ 1 + SWAP C! ENDIF XX C@ 50 = XX 1 + C@ 52 = + 2 = IF
10 48 48 XX C! YY 1+ C! ENDIF ENDIF ENDIF ENDIF ENDIF
11 XX 22 0 VMBW ENDIF ;
12 : TIME 10 /MOD 48 + XX 3 + C! 48 XX 6 + C! 48 XX 7 + C!
13 48 + XX 4 + C! 10 /MOD 48 + XX C! 48 + XX 1+ C!
14 INTLNK @ ' #UPDATE CFA ISR ! -31804 ! ;
15 : STOPCLOCK 0 -31804 ! ;
```

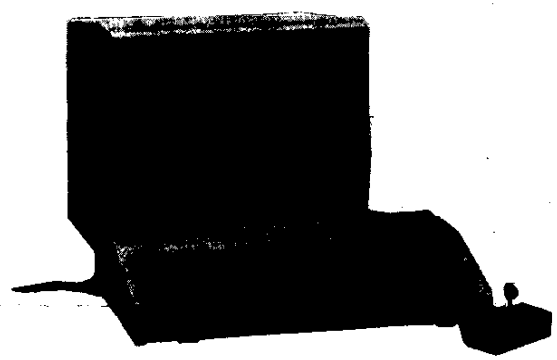
This is a clock program written in TI FORTH. To set the clock enter the hours and minutes then enter TIME. The word STOPCLOCK will stop it. Here is a line by line description of how it works:

LINE 0: Remark. Not required.

LINE 1: Variable TT will be used to count tenths of a second. Variable XX will be 8 bytes long. 2 bytes for hour, a colon, 2 bytes for minute, a colon, and 2 bytes for second. The time is stored in ASCII so it won't have to be converted before writing to the screen. Char 58 is a colon.

LINE 2: The word #UPDATE is the main portion and is responsible for keeping track of time and displaying it on the screen. The word #UPDATE will be executed 60 times per second. Each 1/60th of a second 1 is added to TT. If TT is greater than 59 then 1 second has elapsed and clock is updated by lines 3 to 10.

LINE 3: XX + 7 (units seconds) is incremented by 1. If greater than 9 (ASCII 58), then it is made equal to zero (ASCII 48) and ten seconds is updated.



FORTH DEMO PROGRAMS - (CONT'D)

LINE 4: Update XX + 6 (tens seconds)

LINE 5: Update XX + 4 (units minutes)

LINE 6: Correction factor. Adds 470 milliseconds to clock every ten minutes to make up for inaccuracy in clock. This can be changed from 0 to 59 to slow or speed up the clock.

LINE 7: Update XX + 3 (tens minutes)

LINE 8: Update XX + 1 (units hours)

LINE 9: Update XX (tens hours). If the maximum time has been reached then reset to all zeros. To change from a 24 hour clock to a 12 hour clock change 50 to 59 and 52 to 50.

LINE 10: Change time to all zeros.

LINE 11: Display time on screen. XX is memory location of time data. 22 is the screen location to start writing. Changing this value will change where the clock appears on the screen. 8 is the number of characters to be displayed. This could be changed to 5 to display hours and minutes only.

LINE 12: Create word TIME which breaks up starting time into tens and units and stores the ASCII value (add 48) in variable XX.

LINE 13: Continuation of line 12.

LINE 14: Set up ISR so that the word *UPDATE will be executed 60 times per second. Chapter 10 page 3 of FORTH book explains this.

LINE 15: Word STOPCLOCK stops ISR by putting a zero into memory location -31804 (hex 83C4). Use STOPCLOCK before using COLD or bit map modes.

Memory Full Errors (reprint from Calif. BBS Irish Input)

Discovered that when you upgrade to disk that some of your programs won't load & give you a "MEMORY FULL" error? That's because your DOS uses about 2K of RAM. You can disable the DOS, and regain the lost 2K by entering:

CALL LOAD(-31888,63,255) and then NEW.

From Ext. Basic you must do the following:
CALL INIT, but you can also restore DOS by entering:

CALL LOAD(-31888,55,215) and then NEW.

You can call this from BASIC when the ED\ASSEM or MINI MEMORY mods are plugged in, but you can only restore disk by doing a BYE.

Sound Registers (Reprint from BBS Irish Input, Calif.)

CALL LOAD(-31740,A,B)

A & B=Values you enter. Change them around to get different sounds and they stay on until another sound is made normally (an error, input beep, call sound, etc.)

PROGRAM OF THE MONTH

After trying to initialize a new disk without success, I phoned Jim Hilley for advice. He suggested I bring my stubborn disk to the next meeting and also that I write an article for the newsletter. I am such a novice regarding computers (still struggling with basic and "teaching" my Epson how to print), but here goes----

With the aid of my husband, Don, we decided to critique "Country Farm Derby" by 99er John Gunter.

This program can be a lot of fun at any party. As many as eight players can bet at one time and five horses are used in each race. The usual bets are win, place, show, and parley. Win; pays 4/1, Place; 3/2, Show; 2/3, and parley; 15/1. Parley pick is 1st and 2nd. Each player starts with \$200. The program will provide prompts for each step. Statistics are kept on each horse and players advised of their winnings and losses. So try it! We will see you at the races!

Submitted by Pat Koranda

JOHN PHILLIPS QUESTION AND ANSWER COLUMN Reprinted from 99'er UGA

QUESTION #1

Hex address 8378 is the random number generator. Hex address 83C0 is the random number seed. Please provide an example of a short program to select a random number in A/L for each of the above. How do they work together or if they even work together. I.E. Make a short program on how to change colors on the screen; short dice game in A/L #1-10; how do you select a color table in A/L for example? . . . Bob Anderson - Bakersfield, Ca.

>8378 is the random number generator, according to GPL specification. >83C0 is the random number seed according to GPL specifications. In assembly language, these areas do not function at all. However, they can be used a storage areas for your own random number routines. Listed below is a program to change colors on the screen, randomly. Notice the random number subroutine.

```

DEF SCREEN
REF VWTR
SEED   EDU >83C0      seed >83C0
      EVEN
SCREEN LWPI >8300      load workspace
      LI R0,>0700      use VDP R7
GETRND BL @RANDNO      get a random #
      ANDI R10,>F      limit it to 0-15
      SWPB R10         put color in asb
      SWPB R0          prepare to move color in
      MOVB R10,R0      have color/reg# in R0
      SWPB R0          now have reg#/color
      BLWP @VWTR       write a random screen color
      JMP GETRND       do it as fast as possible

```

```

*****
* GENERATES A 16 BIT RANDOM NUMBER AND*
* PLACES IT IN R10. RETURN IS IN R11. *
*****

```

```

RANDNO LI R9,28645      SELECT A BIG NUMBER
      MPY @SEED,R9      FEED THE SEED
      AI R10,31417      NOW MAKE IT ODD
      MOV R10,@SEED     MAKE NEW SEED
      B *R11            RETURN TO CALLER
      END SCREEN        LOAD AND GO!

```

QUESTION #2

Voice recognition in assembly language: How do I work voice recognition and make it compatible with the speech synthesizer? . . . Bob Anderson - Bakersfield, Ca.

Voice recognition is a very "heavy" topic. Basically, the /4A has a mini "A to D" converter . . . the cassette port. It can distinguish high and low tones if the proper CRU bits are activated. By using a microphone and knowing what type of pin configuration to set up, one can write assembly language software to read data from the microphone and translate it into binary codes. These must be stored in RAM. Once all the commands are stored in RAM, a program merely reads the new input and compares it to the patterns previously stored until a close match is found. VOILA! Speech recognition. As far as actually doing all this, well, that is even beyond me. Milton Bradley spent millions of dollars perfecting this method.

TI-SOFTWARE LIBRARY

For the last three months I have been working very dilligently toward finishing my requirements for a degree in Computer Science. During those months I have had to call upon my library volunteers to do the jobs that I haven't had time to do. I would like to thank them all for helping to keep the library running pretty smoothly during the meetings.

Starting during the November meeting we will be providing two work stations for making copies of programs for the user. We will also try to handle the cassette software during the meeting as long as the volume of requests will allow. For those who have been frustrated from getting programs during the meeting in the past this plan should help.

It has been a few months since I have provided a copy of the library directory in the newsletter. I am supplying a copy this month. The software that the library uses to maintain this directory does not allow me to list everything because some of the programs in our library consist of more than one file. Because of this I am providing a supplementary list of library programs somewhere in this newsletter. Please hold on to this directory because we cannot provide a copy of it in every newsletter. Copies of the directory during the meeting are available but are few and dissappears readily, so please bring your own copy to the meetings.

Are there any individuals out there that have benefitted from the monthly computer seminars? Has the experiences improved your overall capability with your computer? Do you possibly have some expertise in areas that may be a benefit to someone else? Are there any nagging computer related problems that you just can't seem to figure out? These are some of many questions that can be answered in our newsletter and during our meetings. For this group to continue to grow and prosper it must have a wide participation of the membership at large, not just a few individuals. We have always had a 'Letter-to-the-Editor' section available but haven't had much participation in it. The monthly meeting can sometimes be a very hectic time to get all your questions answered. Those questions that can't be

answered during the meeting can be answered in the newsletter, if you would only ask them. The group desperately needs inputs from the membership. I'm sure there are some people out there familiar with running a business--throw out some ideas for business related programs. There must be individuals familiar with finance--come up with some ideas for programs in the finance area. There is no question that there exist individuals familiar with technology in this area--program ideas useful to everyone can surface from them. Last but not least there are definitely some accomplished programmers out there--you can take the above ideas and create those programs. Participation is the key to the success of this group. Given enough volunteers, only a little of each individuals time is needed to cary on with this newsletter. This group has grown considerably since Jim Baker's living room but as you all know the size of the group is not an insurance against the crumbling of the group. The Roman Empire found that out the hard way. With the talent inherent in our membership it is not fair that a few individuals must work overtime to keep this group ticking. Get Involved!!!

Now that I got that off my chest I want to go over once again a few rules of the TI Software Library. Order forms for library software are available at the library station during the meeting. To order software you must fill one of these out and take it to the treasurer. He will take your money and you can then bring it back to the library work station. We will then strive to complete the order during the meeting while you are attending one of the seminars or one of the many discussion groups. When your order is ready we will call out your name.

Normally there exists some confusion while the library station is being set up. If you would please wait till we are finished with our setup then I'm sure we can handle any service or question you might have efficiently. I, myself, will be available to assist anyone when I arrive. Because I have a class on Mondays I will usually be late coming to the meeting. There will be a partial list of program descriptions available at the library station. Because there is only one list it must remain at the library station--it is inreplaceable.

Special Note: For the last few meetings I have requested some inputs for the library from the Pascal, Forth, and Assembly Language people. We still need inputs. These last three programming languages represent the full capability of our TI's and I'm sure they will be greatly appreciated by all those who work in those languages.

JIM HILLEY (725-0371-Anytime, leave a message if you have too.)

Speech Synth. Check
(reprint from Calif. BBS Irish Input)

CALL LOAD(-28672,A)

Then type test A if A=96 then the speech synth. is plugged in if A=0 then it's not. This is really useful if you don't want those without the speech synth. to have to wade through all the CALL SAY statements.

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