

Heart of the

Bluegrass

# BYTEMONGER

LEXINGTON, KENTUCKY

SEPTEMBER 1988

## MEETING NOTES

by WESLEY R. RICHARDSON

The September meeting of the BLUEGRASS 99 COMPUTER SOCIETY, INC. will be held on Thursday, September 1, 1988, beginning at 7:00 P.M. at the KENTUCKY UTILITIES OPERATIONS CENTER, 500 Stone Road, Lexington, Kentucky. The library will open at 6:30 P.M. and will be open again during the break and after the meeting.

### 99 FORTRAN DEMO

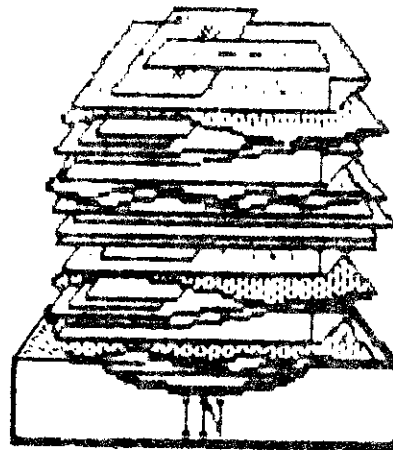
William Bisson will give a demonstration of FORTRAN on the TI. The FORTRAN language has been around since at least the 1960's and was considered a language for engineers and scientists. The implementation of FORTRAN on the TI is similar to C99 and PASCAL in that much of the programming code is transportable to other computers. 99 FORTRAN comes with its own editor, compiler, linker, debugger and mathematical functions library. It also allows accessing TI-99/4A routines such as sound and sprites and assembly language subroutines.

### GENEVE 9640 DEMO

Doug Phelps will show how he uses his Geneve computer including the 80 column word processing. The Geneve offers a way for TI users to utilize their current investment in software, and yet have access to a computer with increased speed and memory. This will be an opportunity for you to see some of the Geneve's capabilities.

### G-GRAPHICS DEMO

Wes Richardson will demonstrate the new graphics language program called G. It was developed by Gene Krawczyk of the Adelaide TI Computer Club in South Australia. A more complete description of G and some programs are in this BYTEMONGER.



*"A man is rich  
in proportion to  
the number of  
things which he  
can afford to  
let alone."*

--- HENRY DAVID THOREAU

# PAPER LIBRARY

by Ed Powell  
BLUEGRASS 99 COMPUTER SOCIETY, INC.

This month let's look at some articles by people who have added color and sound to help with programming or just for the fun of doing it. First of all, Earl Raguse described his program in the this excerpt:

"The following program called *HIGHLIGHT* makes permanent foreground/background color changes and can be turned on and off at will. Once executed, the program can be deleted with *NEW*, before you start entering a new program. I sometimes put this in my load program, its easy to turn it off."

The program is turned off and on by call load statements. It is seven lines long and can turn your screen red, letters white and numbers blue. For the program and more instructions see the May 1988 Topics LA 99ers newsletter. (While you have that newsletter flip the page and you will find a bunch of interesting short programming ideas by Chick De Marti.)

The following unusual programming line from is David Caron:  
FOR CC=1 TO 14 ::CALL COLOR(CC,,16,1)::NEXT CC:  
CALL SCREEN(5)

This line will will change the color on the screen, but is short-lived. If, however, you add this to the line - ::ACCEPT AT(24,1):A\$ - then run the line and break to get out, the changes will last through the edit, list and run commands.

Caron continued with an interesting sound idea. What if you needed a sound to play endlessly? The following short program should do the trick:

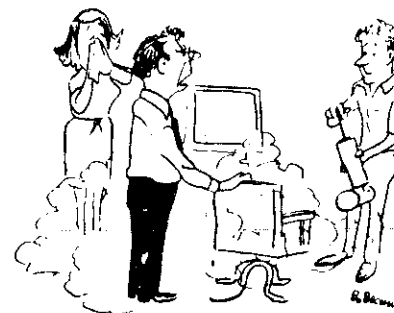
```
10 ON ERROR 100
20 CALL SOUND(-4150,117,1,116,1,-3,1)
30 CALL SOUND(-10000,110,1)
40 END !(for the rest of your program)
100 RETURN
```

For a full explanation of both of David Caron's programs see the June issue of The Ottawa T.I.99/4a user's Group Newsletter.

To round out this *PAPER LIBRARY* I am including a short sub-program by D. Tranovich. Its purpose is to pick a users choice from a menu in an XB program. It is one of several useful sub-programs in the March 1988 Penn-Ohio 99/4a Users Group Newsletter.

```
8000 SUB CHOICE(N,K)
8100 DISPLAY AT(23,5):"Your Choice:"
8110 CALL KEY(0,K,S)
8120 IF S=0 THEN 8100
8130 IF K<49 OR K>49+(N-1) THEN 8160
8140 CALL SOUND(100,-4,5)
8150 GOTO 8100
8160 DISPLAY AT(23,10)BEEP:CHR$(K)
8170 SUBEND
```

Where: N is the number of choices on the menu and K is the user's selection in ASCII



"Look, when I said I wanted someone to debug the program, I meant..."

Reprinted from *ROUGH NOTES* magazine

# G-GRAPHIC

by WESLEY R. RICHARDSON  
 BLUEGRASS 99 COMPUTER SOCIETY, INC.

G is a new graphics language which was developed by Gene Krawczyk of the Adelaide TI Computer Club in South Australia. The version which I used for the following programs was edited by Bob Warren to produce a beginners version of G.

The structure of G programs is very similar to BASIC, except there are no program line numbers. G is also similar to the LOGO turtle mode, but you don't run out of ink. There is a program editor which allows you to Load, Save, Init, Edit, or Run G programs. Files are save in DIS/VAR 80 format, so they may be accessed from TI-Writer.

When a G program is running, the effect is an antimated drawing of lines and patterns on the screen in graphics mode. The speed of the drawing can be slowed down by using delay loops.

I personally enjoyed programming in G, and am anxious to see the Advanced version. The first program listing is G-SHAPES which creates some patterns on the screen.

The second program is 99999-G which is a nested loop routine to count to 99,999. The original COUNT 99999 program was listed in the December, 1987 BYTEMONGER and was updated in March, 1988. This brings to ten the number of TI languages that have run COUNT 99999. This is only a comparison of speeds for this particular counting routine, and please keep in mind that each programming language has its advantages.

| LANGUAGE   | COUNT 99999 | RUN TIME | RATIO |
|------------|-------------|----------|-------|
| BASIC      | 1 HR 51 MIN | 39.4 SEC | 295.1 |
| G          | 1 HR 50 MIN | 25.0 SEC | 291.1 |
| 99 FORTRAN | 0 HR 55 MIN | 21.9 SEC | 146.3 |
| XBASIC     | 0 HR 44 MIN | 13.1 SEC | 116.9 |
| PASCAL     | 0 HR 37 MIN | 32.5 SEC | 99.2  |
| LOGO       | 0 HR 35 MIN | 28.8 SEC | 93.8  |
| TURBO PASC | 0 HR 02 MIN | 48.0 SEC | 7.4   |
| FORTH      | 0 HR 01 MIN | 36.5 SEC | 4.3   |
| c99        | 0 HR 01 MIN | 28.0 SEC | 3.9   |
| ASSEMBLY   | 0 HR 00 MIN | 22.7 SEC | 1.0   |

The third program listing in G is an updated version of the CLOCK program which was on the G-GRAPHICS disk.

## G-SHAPES

```

REM G-SHAPES
REM WESLEY R. RICHARDSON 880822
REM BLUEGRASS 99 COMPUTER SOCIETY, INC.
REM G-GRAPHICS TI-99/4A
REM SPRIAL
SCREEN 7
COLOR 15
SET 120 85
LET K=0
FOR I=0 TO 2160 STEP 6
LET K=K+1
ANGLE I
DRAW K/30
NEXT I
GOSUB :WAIT
REM BURST
CLS
COLOR 8
SCREEN 15
SET 104 88
LET K=42
FOR I=0 TO 1080 STEP 6
ANGLE I
DRAW K
ANGLE I+183
DRAW K
K=K+1
NEXT I
GOSUB :WAIT
REM FLOWER
:FLOWER
CLS
SCREEN 3
COLOR 2
FOR J=48 TO 192 STEP 48
FOR I=1 TO 3
FOR K=89 TO 111
SET I+J K
NEXT K
NEXT I
NEXT J
FOR J=24 TO 216 STEP 48
FOR I=1 TO 3
FOR K=153 TO 175
SET I+J K
NEXT K
NEXT I
NEXT J
COLOR 11
    
```

## ...G-SHAPES

```

LET A=15          SET 128 24          NEXT Z
LET B=60          ANGLE A             NEXT Y
LET C=5           DRAW D/2            NEXT X
FOR J=48 TO 192 STEP 48 LET A=0       NEXT W
SET J 72          FOR J=1 TO I        NEXT V
GOSUB :ROWS      ANGLE A             GOTO :START
NEXT J           DRAW D              :END
FOR J=24 TO 216 STEP 48 LET A=360/I+A STOP
SET J 136        NEXT J
GOSUB :ROWS      PRINT 112 64 I
NEXT J           GOSUB :WAIT          CLOCK
GOSUB :WAIT      NEXT I
GOTO :POLY       PRINT 1E 160 "PRESS ANY KEY" REM CLOCK
:ROWS            STOP                 :START
FOR I=1 TO 6     :WAIT                CLS
GOSUB :PETAL     FOR W=1 TO 2000 NEXT W  BGND 11 SCREEN 3 COLOR 13 SIZE 1
LET A=A+60       RETURN              PRINT 60 0 "THE TIME
NEXT I           SIZE 0
RETURN           BGND 15 5376 780
:PETAL           COLOR 14
GOSUB :ARCR      COLOR 1 PRINT 105 30 "ANALOG"
LET A=A+120      COLOR 10 PRINT 20 175 "DIGITAL"
GOSUB :ARCR      COLOR 15
LET A=A+120      PRINT 120 46 "12"
RETURN           PRINT 124 138 "6"
:ARCR           PRINT 80 94 "9" PRINT 170 94 "3"
FOR D=1 TO B/10 P=32 LET L=360/60 T=360/12
ANGLE A          ARC 128 96 52 52 0 361
DRAW C           TRACE 4 BCOLOR 15
LET A=A+10       FOR I=0 TO 32 STEP 1
NEXT D           ARC 128 96 I I 0 361 NEXT I
RETURN          TRACE 1
REM POLY        COLOR 8 FOR I=0 TO 40 STEP 1
:POLY           ARC 128 96 I I 0 361 NEXT I
CLS            SIZE 1 COLOR 8 PRINT 115 170 ":"
SCREEN 9        :HERE TRACE 2
COLOR 15       FOR Y=270 TO 360+270 STEP T
LET A=0         ANGLE Y SET 128 96 DRAW 20
LET D=20       G=Y-270/30
SET 125 100    COLOR 4 PRINT 100 170 G
FOR I=1 TO 50  FOR I=270 TO 354+270 STEP L
LET A=A+10     COLOR 8 SET 128 96
LET D=D+2      ANGLE I DRAW P
FOR J=1 TO 4   J=I-270/L
LET A=A+90     COLOR 6 PRINT 130 170 J
ANGLE A        FOR C=0 TO 10 STEP 1 NEXT C
DRAW D         FOR W=1 TO 428 NEXT W
NEXT J         COLOR 8 SET 128 96 DRAW P
NEXT I        COLOR 7 PRINT 130 170 J
GOSUB :WAIT   NEXT I
REM POLY2     COLOR 8 ANGLE Y SET 128 96
:POLY2       DRAW 20 PRINT 100 170 G
SIZE 1       COLOR 8
FOR I=3 TO 20 NEXT Y
CLS          CLS
LET A=180    STOP
LET D=420/I

```

COUNT 99999

```

REM 99999-G TI-99/4A
REM WESLEY R. RICHARDSON
REM BLUEGRASS 99 SEP 1988
REM G-Graphics RUN TIME
REM 1 HR 50 MIN 25.0 SEC
CLS
SCREEN 7
COLOR 15
:START
DISPLAY 88 128 "C"
DISPLAY 96 128 "0"
DISPLAY 104 128 "U"
DISPLAY 112 128 "N"
DISPLAY 120 128 "T"
DISPLAY 136 128 "Y"
DISPLAY 144 128 "/"
DISPLAY 152 128 "N"
DISPLAY 160 128 "?"
:KEY
KEY$ K
IF K=89 THEN GOTO :LOOP
IF K=255 THEN GOTO :KEY
GOTO :END
:LOOP
CLS
DISPLAY 120 96 ", "
FOR V=0 TO 9
DISPLAY 104 96 V
FOR W=0 TO 9
DISPLAY 112 96 W
FOR X=0 TO 9
DISPLAY 128 96 X
FOR Y=0 TO 9
DISPLAY 136 96 Y
FOR Z=0 TO 9
DISPLAY 144 96 Z

```

## QUESTIONS

## ANSWERED

## Maybe

by WESLEY R. RICHARDSON  
BLUEGRASS 99 COMPUTER SOCIETY, INC.

The purpose of this column is to provide a forum for questions and answers, and I will try to act as editor to get the questions answered. Any TI-99/4A related questions or answers may be submitted for possible inclusion in this column by writing to the BLUEGRASS 99 COMPUTER SOCIETY, INC., P.O. Box 11866, Lexington, KY 40578-1866.

Q-001 How can "Adventure" files be transferred from disk to cassette and vice-versa?

A-001 The only apparent way is to use the Adventure module to load in a game, say from CS1 and then save the game back to a different device such as DSK1.GAME1. The command to save a game is SAVE GAME.

Q-002 What are the differences between a Mini-Memory and a Supercart (other than the different GROM's and the fact that the mini-memory uses up half of it's RAM space for the Mini-Memory operating system)?

Q-003 Why are the allophones in Extended BASIC different than the ones used in T.E. BASIC, and how can they be used to build words?

Q-004 Has anyone used the CSGD to TI-Artist font conversion program on Artist Extras and had trouble getting complete sets of all upper and lower case letters?

Q-005 Are the following still published? a) Smart Programmer, b) Super 99 Monthly, c) Traveller Diskazine, d) Educational Computing on Kentucky Educational Television.

A-005 The last issue of the combined Smart Programmer and Super 99 Monthly which I am aware of is the March, 1988 issue. The Traveller Diskazine is still being published. I have not seen the Educational Computing on KET recently.

Q-006 Does anyone in the Bluegrass 99 Computer Society subscribe to Compuserve, Delphi, etc., and if so, how about an occasional word on what's going on in the TI SIG's?

A-006 We have two members on Compuserve and none on Delphi or Genie. Most of the programs on

Compuserve are in the Bluegrass 99 library. You may also wish to check the exchange newsletters as a source for what is happening in the TI community.

Q-007 Does anyone write BASIC/Extended BASIC programs using TI-Writer? If so, how about a quick rundown on why and how.

A-007 It is possible to write BASIC programs in TI-Writer, but would probably be slower than doing it in the BASIC or XB environment because of the conversion time before test running to debug. The programs used to convert from TI-Writer to BASIC are most often used when the program was in ASCII (DIS/VAR 80) format on a bulletin board.

Q-008 What is meant by "interlace" on some disk sector editors?

A-008 There was a comprehensive article on disk drives written by Jerry Coffey and printed in the May, 1988 Topics newsletter by LA99ers Computer Group. The interlace is the sequence of sectors around a track on a disk. Note that the TI, Corcomp and Myarc disk controllers can utilize different interlace patterns.

Q-009 How is the BYTEMONGER newsletter produced?

A-009 The articles entered using TI-Writer and printed in single column format using the formatter. Then the pages are pasted up to form two columns. The article headers are created using Character Sets and Graphic Design (CSGD). BASIC programs are listed to disk and then processed by the LINE-LIST program and then printed as above. The photocopying is done using two sided copying and then hand folded. The address labels are edited using TI-Writer and printed using ADDR-LIST.

Q-010 How can two or more sprites be made to move together without getting out of alignment with each other, especially when being controlled by the joystick or keyboard?

A-010 There will always be some difference in position, but a statement such as CALL MOTION(#1,10,10,#2,10,10) can be used to move two sprites.

# PRINT STYLIST

By Bill Settles  
 BLUEGRASS 99 COMPUTER SOCIETY, INC.

If you don't happen to have PLUS! (the companion disk to TI Writer described by Mark Armstrong in our June and August issues) and you can never remember the printer command codes for the various print modes, or you are like me - too lazy to type them in or even to look them up - here is a little program that may interest you. I run it before using word processing or data-base programs when a single print style and quality are to be used throughout the printout. The commands are for the Epson FX Printer but are compatible with other printers with little modification.

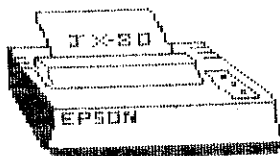
The code CHR\$(27);"@" found at the beginning of each command line resets the printer; otherwise the modes which have priority over others may persist as long as the printer remains turned on. This command "clears the slate". All commands are right out of your Printer Manual. Notice that those which are preceded by Escape Code (27) are in Character form (i.e., "E", "B", "4", etc.). This differs from those which are used for formatter transliteration commands which are in ASCII form.

You can store and use the program in several ways. Mine is on the same diskette as Funnelweb and is set up to automatically load that program. The program listing is given on the right and examples of the various print modes are below. (P.S. This program is strictly utilitarian so please don't be underwhelmed by the programming!)

- OPTION 1      OPTION 7
- OPTION 2      OPTION 8
- OPTION 3      OPTION 9
- OPTION 4      OPTION 10
- OPTION 5      OPTION 11
- OPTION 6

```

100 REM PRINTER OPTIONS
110 REM BY W.H. SETTLES
120 REM BLUEGRASS 99 COMPUTER SOCIETY, INC.
140 OPEN #1:"PIQ"
145 CALL CLEAR
150 DISPLAY AT(2,3):"PRINT OPTIONS AVAILABLE:" "
160 DISPLAY AT(4,3):"NORMAL PRINT"
165 DISPLAY AT(5,5):"Regular Mode_____1": "
170 DISPLAY AT(6,5):"Emphasized Mode___2": "
180 DISPLAY AT(7,5):"Double-Strike Mode__3": "
190 DISPLAY AT(9,3):"ELITE PRINT"
200 DISPLAY AT(10,5):"Regular Mode_____4": "
210 DISPLAY AT(11,5):"Double-Strike Mode__5": "
250 DISPLAY AT(13,3):"COMPRESSED PRINT"
260 DISPLAY AT(14,5):"Regular Mode_____6": "
270 DISPLAY AT(15,5):"Double-Strike Mode__7": "
280 DISPLAY AT(17,3):"ITALIC CHARACTER SETS"
290 DISPLAY AT(18,5):"Regular Mode_____8": "
300 DISPLAY AT(19,5):"Compressed Mode___9": "
310 DISPLAY AT(20,5):"Regular/Dbl-Strike_10": "
330 DISPLAY AT(21,5):"Compressed/Dbl-Stk_11": "
400 INPUT " OPTION DESIRED?_" :P :: PRINT
450 IF P<1 OR P>11 OR P<>INT(P) THEN 145
500 ON P GOTO 600,620,640,660,680,700,740,760,780,800,820
600 PRINT #1:CHR$(27);"@"
610 GOTO 900
620 PRINT #1:CHR$(27);"@";CHR$(27);"E"
630 GOTO 900
640 PRINT #1:CHR$(27);"@";CHR$(27);"B"
650 GOTO 900
660 PRINT #1:CHR$(27);"@";CHR$(27);"4"
670 GOTO 900
680 PRINT #1:CHR$(27);"@";CHR$(27);"M";CHR$(27);"6"
690 GOTO 900
700 PRINT #1:CHR$(27);"@";CHR$(15)
720 GOTO 900
740 PRINT #1:CHR$(27);"@";CHR$(15);CHR$(27);"6"
750 GOTO 900
760 PRINT #1:CHR$(27);"@";CHR$(27);"4"
770 GOTO 900
780 PRINT #1:CHR$(27);"@";CHR$(27);"4";CHR$(15)
790 GOTO 900
800 PRINT #1:CHR$(27);"@";CHR$(27);"4";CHR$(27);"6"
810 GOTO 900
820 PRINT #1:CHR$(27);"@";CHR$(15);CHR$(27);"6";CHR$(27);"4"
900 CLOSE #1
950 END
    
```



...QUESTIONS

Q-011 How do you load two files into Editor Assembler at the same time, assuming the files are not too big for the memory?

A-011 I would suggest using the Editor on the Funnelweb disk. First load one file then do a LF and 25 DSK1.SECOND to put file SECOND after line 25 in the workspace. The combined file can then be saved back to disk.

Q-012 How do you print two files consecutively in Editor Assembler, one after the other?

A-012 I believe you must first combine them as in A-011.

Q-013 How does the text to speech disk (PHD5076) work with Extended BASIC programs?

Q-014 a) Is there any way to delete protected files using TI-Writer? b) Is there any way to protect files using TI-Writer?

A-014 a) No, b) No, not that I am aware of.

Q-015 In Extended BASIC how can I format the print-out of data lines which have both numbers and alpha values?

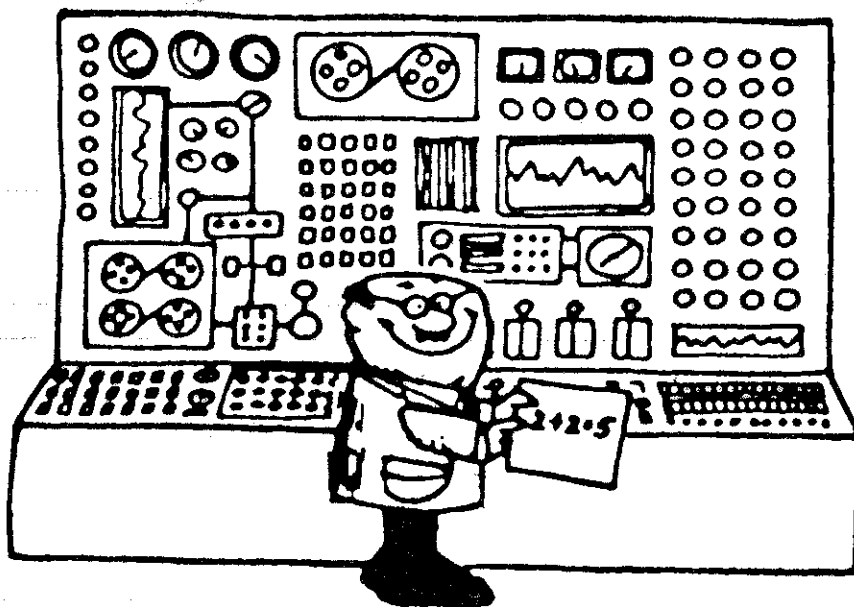
A-015 There are several ways to control formatting of output both to the printer and to the screen. The easiest way is to use DISPLAY AT(10,4):USING "#### ##.##":A\$,N or a similar PRINT #1,USING "#### ##.##":A\$,N type of statement for a printer. This will also give you the proper rounding.

Q-016 In BASIC how do you control the number of decimal places when rounding?

A-016 In BASIC use a statement such as Y=INT(1000\*X)/1000 to get three decimal places. Change both of the 1000's to 100 to get two decimal places.

Q-017 a) In the "INVESTMENT" program, the print-out for the amortization table doesn't align properly in columns, how do I correct this. b) There is also a file error in line 2548.

A-017 a) Use a PRINT #1, USING "##.## ##.##":N1,N2 type of statement to format output. b) The file was opened and not closed, so when the program tries to open the file a second time, there is a file error.



Wow, I could've used my TI-99!!!!

