

(DSD) 8501

BYTEMONGER

LEXINGTON, KENTUCKY

Heart of the Bluegrass

JANUARY 1985

MANY WEATHER FIRST WINTER SNOW TO SEE TELECOMMUNICATIONS DEMO

While Winter only lasted 3 days this year, it occurred during our December meeting and required an extra effort for our speakers who had much equipment to move and set up and for the members who did brave the 6 inches of snow to attend a very informative meeting. The fine art of Telecommunications was covered by our speakers Gerald Wells and Tom Rhodes. Gerald used his access to the SOURCE to demonstrate the many facilities available to the user including TEXNET. Several programs were downloaded for the library. Both types of modems were illustrated with Gerald using the direct connect and Tom using an acoustical modem. Tom accessed COMPUSEVE and guided us through several of many menus available to the user. As a supplement to this program, Tom Rhodes has written an article which appears in this issue on USING COMPUSEVE. Telecommunication has been somewhat neglected in our area due to the lack of local Bulletin Boards, however we are listing below several which are in operation or will soon be in operation in Lexington.

BULLETIN BOARD NUMBERS

NAME	NUMBER	COMMENTS
RBDS-PC	254-3408	24 hours per day operation
Castle Chaos	278-4287	24 hrs/day-7.50 \$/yr access
Underground	223-9247	24 hrs/day (temp problems)
Jay Denebeim	266-4532	Under development
Kevin Maggard	269-3241	2300-1600 Weekdays 2300-0900 Weekends

We are indebted to Homer Crabtree for checking out these Bulletin Boards and placing our meeting time and date on them.

During the business session, the Group regretfully accepted the resignation of Rudy Fister due to a conflicting schedule and Gerald Wells was appointed Secretary to fill Fister's unexpired term. Jim Emmons agreed to serve as chairman of the nominating committee.

NEW IN THE LIBRARY

After much delay we have received our copy of "TI-99/4A CONSOLE and PERIPHERAL EXPANSION SYSTEM TECHNICAL DATA" which contains wiring diagrams of the console and peripherals.

DEVELOP SKILL IN FILE HANDLING INPUT RECOVERY AND DATA SORT

Basic File Handling will be the topic of our first meeting of 1985. Wes Richardson will discuss this much needed and little understood programming utility. For those of you who have had the pleasure of hearing Wes's thorough and enlightening presentations you can anticipate another with coverage of File Input and Output utilities, data handling and sorting.

Our monthly meeting will be held beginning at 7:00 PM on Thursday, January 3, 1985 at Kentucky Utilities Operations Center - 500 Stone Road.

All members in good standing will receive with their copy of the BYTEMONGER, a form for use in submitting nominations for officers for the coming year. The forms should be turned in to Jim Emmons at the meeting or mailed to our P.O. Box no later than January 15, 1985. The report of the nominating committee and elections will be the main business of the February meeting.

TI FORTH DSDD MODIFICATIONS

TI-FORTH is now available in a 180 screen and 360 screen version by using modifications recently published by CorComp Cursor. The article written by J. W. Vincent goes through the changes for both double-sided and double-sided/double-density step by step. The text is two pages and is not published in the BYTEMONGER since copies of each of the 90,180 & 360 screen FORTH disks will be available in the library. For those who are interested, the directions for making the necessary changes are available. The Double-density 360 screen version still eludes the Editor since the CorComp Disk Manager recently purchased (reported to have been defective and now corrected) is defective.

The combination of the CorComp DS/DD capacity and the two new half-height TEAC 55B Disk drives promises to make for maximum capacity and versatility :: a Christmas present from Bess.

USING COMPUSERVE

By Tom Rhodes

Getting Online the first time is not nearly as difficult as getting instructions on how to do it. This article may help some of you who are thinking about adding a modem to your system.

The hardware you buy comes with instructions, and the hookup to the telephone system is not difficult. One tip to consider is buying a modem which has 1200 Baud capability. Since modems operating at faster baud rates transfer information more quickly, you can save money in connect time by buying a modem with more capability. Great features such as automatic dialing, and auto answer are also found in more expensive modems.

There is a local number, 259-3446, which you dial to connect with the Compuserve system. This saves long distance charges, which would rapidly exceed the \$6.00 per hour charge that you must pay when you use the system.

Tip #2 is to buy a Compuserve Starter Kit. Although you can buy this at local bookstores for the list price of \$39.95, its available at Service Merchandise for only \$29.97. The starter kit has a User Number and a temporary password which you need before you can log on the system for the first time. The real benefit of the starter kit is five hours of connect time to the system which you can use to familiarize yourself with its operation. With the price of the starter kit so low, you are only paying for the actual time you are learning. LOGON to the system and you will find that you have MENU-ITIS. Getting through the numerous menus to find what you want is really difficult if you are a first time user. The next step for the TI 99/4A user is to enter GO 05-27 which will short cut you through numerous menu screens and take you directly to the TI-FORUM. This is where you will spend much of your time on the system, especially as a first time user. The TI FORUM will ask you to type in your name on your first trip there and register you as a member of the Forum at no charge.

At this point you will be greeted with a menu asking you what you want to do. You can read or leave messages, read bulletins, or Conference with other members who are logged onto the system. If you need help on programming problems, or want to know what is happening in the world of TI, then the bulletin area is the place to find out. Simply enter the number of what you want to do. Tip #3 is to break your screen with a control C if you get caught reading something by accident that you dont want to read. A control C acts as a break. A break will take you back to the main function menu of the Forum.

What you don't see on the function menu in the Forum is any information on the programs that are available for you to download over the telephone. At the prompt on the function menu enter XA2. What this will do is to change the database that you are using to the database strictly for the 99/4A. Here you will have another menu which will allow you to BROWse through the programs that you can download over the phone. When you enter the command to BROWse through the files, the system will ask

you for AGE. Here you simply enter the number of days such as 90. The computer will only show you programs which have been uploaded into COMPUSERVE in the last 90 days. Next the computer will ask you for a KEY. This will limit your search to programs you might be interested in specifically. For example you might want to look for GAME. (There is a way to find out what keywords are in all of the programs and how many times each appears.) If you want to look at everything, just press enter at the AGE prompt and enter again at the KEY prompt and the computer will show you everything in this database.

This isn't the only database with programs for the 99/4A, if you want to see the other databases, just type XA at the menu prompt and the computer will show you all of the databases.

When you look at each program and the description, you will be given three choices each time: 1. Read this file, 2. Download this file, 3. Return to Top Menu. You can't download through this option. There are two ways to download programs from COMPUSERVE. The first is by option 1. Read this file. You can read the file and output to Disk using Control 2 with the TEII module. The second way to download programs is by leaving the TI FORUM altogether and using a different area of Compuserve called ACCESS. I will outline the specific steps for both of these methods later.

Good luck finding your way around the networks. The Source has programs which can be downloaded from one of the larger Users Groups, but has a minimum monthly charge even if you never use the service.

BLUEGRASS AREA 99er USERS GROUP NEWSLETTER

The BYTEMONGER is a monthly publication. Correspondence should be addressed to Editor, P.O. Box 11866, Lexington, Kentucky 40578-1855. Advertising rates are included with suppliers copies. Reports and Technical contributions are solicited from members and others.

Articles published in the BYTEMONGER may be quoted if proper credits are given.

Editor.....Don MacClellan
Able assistance.....Jim Hughes & Gerald Wells

*** CREDITS ***

The 1985 Calendar appearing on page 5 was printed by Rich Hubbard from a FORTH-79 program which he modified and corrected. We expect to publish the 6 screen program for you in the February Issue. The BYTEMONGER solicits articles and programs from all its members and welcomes Tom Rhodes timely article on COMPUSERVE as well as John Schmidt's continuing HOLDING FORTH tutorial. Ed.

HOLDING FORTH

by

John F. Schmidt
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Lexington, Ky 40502

FORTH is an elegant language. That's partly why I love it. But I, like most of you, am a newcomer to it and enamored perhaps by "surface beauty". This article will further explore the graphics capabilities of FORTH, and in doing so, we will learn more about some other features of FORTH, such as the floating point numbers package. I suspect that we will find FORTH's beauty more than skin deep.

In the last issue of Holding Forth we examined the stack and reverse polish notation used by FORTH. The explanation was necessarily brief, and if you want to learn more, I suggest the books "STARTING FORTH" and "THINKING FORTH" by Leo Brodie. They are both somewhat more expensive than I like, but they are really excellent and will give you considerable insight into the workings of FORTH.

Last issue we also dissected the "BOX" routine. There were several limitations to the program as it was written. Perhaps someone "out there" will be interested in working out the answers. First, the name BOX has a few problems: it's already used by one of the system routines. Nothing had seems to happen when I use it, but just to avoid future trouble, rename the routine something else like "square". The other limitations of the program are less serious, but for the purist, just as irritating: BOX's colors are fixed. Being able to redefine the color of each separate box on the screen can lend some real zip to a visual display. Chapter six of the forth manual gives the secret away...shouldn't be too hard to change.

I forgot to tell you that the BOX word could be used in GRAPHICS2, SPLIT and SPLIT2 MODES. GRAPHICS2 Gives you the entire screen to mess with, but you lose the advantage of seeing what instructions you are typing in. That can be a real bummer, especially if you make a mistake and the computer seems to lock up (which it really can do). If you want to try to regain control of your 99/4A just type 'TEXT' and <ENTER>. That should do it. Next time watch your typing. Another shortcoming of BOX is that it only makes boxes parallel with the horizontal and vertical planes. If we could tilt the thing, some really neat graphics could result. All that is necessary is to add another parameter, say 'THETA', which is an angle in degrees (or radians, whatever you want). Offset the calculation of the starting and ending points according to the angle, and there you have it. How about somebody working that out and sending in the solution. We will print it (if it works).

One of the things which may cause some trouble is that some manipulations of numbers requires decimal point type numbers, called in computer parlance: FLOATING POINT NUMBERS. It may come as a suprise to you that the computer has a much easier time working with integers.

than with "real" numbers. Some early versions of BASIC only worked with integers. Our TI has one of the most excellent capabilities of any home or professional computer when it comes to handling floating point numbers. The programming for those tasks resides in some GROM-based routines call the "floating point package". FORTH has made these available to us and I find them easy to use.

Before we get any further into a discussion of how to use this package, I suppose that it would help if I told you what I aim to accomplish in this and the next several issues of HOLDING FORTH. We already have a simple version of the BOX routine, next we will develop a CIRCLE routine. In the development of this, we will definitely need the floating point package, so let's clear that up first.

Doing integer arithmetic with FORTH is very easy. If we want to add two numbers together, we push them onto the stack and '+' them. For example, 22 plus 35. That enters like this: " 22 35 + . ". Note the spaces between the operators. The period after the plus is a 'print' command, remember? The same procedure holds true for subtraction, multiplication, and division. The order of entry doesn't make much difference for addition and multiplication, but it sure does for the other two. The way to know the order is to remember how the problem normally looks when we write it out: "22 + 35 =" The numbers remain in that order when you enter them in FORTH. Easy huh?

The floating point arithmetic is just a little different, but really is just as easy. First, to push a number onto the stack two things must be kept in mind: The floating point system has it's own stack, and it has special command words to get the numbers on and off. To push a number onto the Floating Point (FP) stack we do it like this: '>F '. Then we follow it with the number to go onto the stack. An example: Put 3.14159 onto the floating point stack. Answer: '>F 3.14159 '. To check to see if it made it, we can print off of the FP stack by using 'F. '. Remember that we print off of the integer stack using just a period. This is similar, but takes the Floating Point characteristic into account in the word. Let's add two numbers together: 3.456 + 7.821 = ?. You might try that using the integer stack. What do you get? Can you explain the answer you get? Anyway, the way we do this problem is like this: '>F 3.456 >F 7.821 F+ F. '. The answer is 11.2778000 . We will be wanting to take the square root of a number. That's in the FP package also. Try this: '>F 99 SQR F. ' the answer should be 9.9498744 or something very close to that. Do more reading in chapter seven of the TI-FORTH manual now that you have your feet wet.

Next issue we will present the circle routine and explain how it works. I predict that it will have a flaw in that it will not produce a perfectly filled-in line, but it will make the circle in a pretty slick way, and rather interesting, visually. Until next issue, keep REACHING FORTH, while I continue HOLDING FORTH.

28 COLUMN FORMATTER

This handy dual purpose program comes to us through Jim Peterson's TIGERCUB TIPS. It will allow you to access and read DIS/VAR 80 Files such as found in TI-WRITER and E/A easily. The program was originally written by Julie Pack to format text to the 28 column screen and works fine. Lines 50,60,70,80 & 170 were added by Peterson and may be deleted to use the 28 column feature. This text was printed from the TI-WRITER Text Formater which uses many of the ASCII codes such as !,&,\$, for function symbols and must be repeated twice in composing text to cancel those features. I hope all have been corrected. All of the programs appearing in the BYTEMONGER have been run and tested. If you have problems with them or do not want the typing practice, bring a cassette or disk to the meeting and we will copy them for you. Editor.

```

50 CALL CLEAR :: CALL SCREEN(14):: INPUT "FILE NAME?
DSK1.?:F$
60 DIM B$(150):: OPEN #1:"DSK1."&F$,INPUT ,DISPLAY
,VARIABLE 80
70 A=A+1 :: LINPUT #1:B$(A)
80 IF EOF(1)=1 THEN B$(A+1)="ZZZ" ELSE 70
100 ! 28 COLUMN TEXT ROUTINE IN EXTENDED BASIC
(EASILY CONVERTED TO BASIC) BY
JULIE PACK, B.G.U. P.O.BOX 1402 PALM BAY, FL 32906
110 ! ENHANCED BY JET SHOALS 99'ERS, P.O. BOX 2928
MUSCLE SHOALS, AL 35662
120 CALL CHAR(64,"00282828")
130 ! PROGRAM TO COPY STARTS HERE
140 CALL CLEAR :: X=-1 :: CALL SCREEN(14)
150 RESTORE
160 IF X)=21 THEN X=1 :: CALL WAIT
170 Z=Z+1 :: MESS$=B$(Z)
180 IF MESS$="P" THEN DISPLAY AT(X+2,1):Z$ :: X=X+4
:: Z$="" :: GOTO 160
190 IF MESS$="ZZZ" THEN DISPLAY AT(X+2,1):Z$ :: CALL
WAIT :: END
200 IF LEN(Z$)>0 THEN MESS$=Z$&" "&MESS$
210 X=X+2
220 IF X)=21 THEN X=1 :: CALL WAIT
230 IF LEN(MESS$)<29 THEN DISPLAY AT(X,1):MESS$ ::
Z$="" :: GOTO 160
240 FOR A=1 TO 29
250 I=POS(MESS$, " ",A)
260 IF (I=0 OR I)>29)AND A=1 THEN A,J=29 :: GOTO 290
270 IF I=0 OR I)>29 THEN A=29 :: GOTO 290
280 J,A=I
290 NEXT A
300 IF X)=21 THEN DISPLAY
AT(X,1):SEG$(MESS$,1,J-1):: X=-1 :: CALL WAIT ::
GOTO 320
310 DISPLAY AT(X,1):SEG$(MESS$,1,J-1)
320 IF SEG$(MESS$,J,1)=" " THEN I=1 ELSE I=0
330 Z$=SEG$(MESS$,J+I,163):: MESS$=Z$ :: IF
LEN(Z$)>28 THEN X=X+2 :: GOTO 240
340 GOTO 160
350 DATA "This short routine will enable you to
write long text material in your data statements so
you won't have to worry about counting"

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360 DATA "the length of your sentences all the time.
This routine will automati cally edit your text to
fit a 28 column screen."
370 DATA A suggestion- It is a good idea to put a
quote at the beginning and end of the data
statements so you won't have to worry about"
380 DATA "commas like this ,, , and they will remain
in your text properly."
390 DATA "This routine will also clear the screen
(when filled) and continue rea ding your data and
displaying your text on the next screen."
400 DATA P
410 DATA " To start a new paragraph enter the letter
@P@ as a sepeate data statement, then indent your
text on your next next data"
420 DATA "statement 2 or 3 spaces
(if desired).",P,"to skip lines",P,"just ente r
@P@",P,"where ever you want to",P,"skip."
430 DATA P,"Make sure that your very last data
statement is @ZZZ@, and just replace these data
statements with"
440 DATA "your own.",P,"You'll also find this
routine is most useful when concat enating strings,
E.G., @ELIZA@ type programs-",P
450 DATA "An example:",P,"A$=@JACK AND JILL WENT
UP@",P,"B$=@THE HILL TO FETCH A",P,"C$=@ PAIL OF
WATER.",P,"D$=@A$&B$&C$&D$",P,"PRINT D$",P
460 DATA "JACK AND JILL WENT UP THE HILL TO FETCH A
PAIL OF WATER.",P,P,P,"HAPPY PROGRAMMING@"
470 DATA ZZZ
480 SUB WAIT
490 DISPLAY AT(24,8):"Press any Key"
500 CALL KEY(0,K,S):: IF S=0 THEN 500 ELSE CALL
CLEAR
510 SUBEND

```

COLOR DEMONSTRATION
By Ed York CIN-DAY UG

```

100 REM COLOR BONANZA BY ED YORK
110 REM CIN-DAY USER GROUP
120 REM TI BASIC
130 CALL CLEAR
140 FOR A=40 TO 136 STEP 8
150 CALL CHAR(A,"55AA55AA55AA55AA")
160 NEXT A
170 FOR B=2 TO 14
180 CALL COLOR(B,1,1)5AA")
190 CALL VCHAR(1,2*B,24+8*B,22)
200 CALL VCHAR(1,2*B+1,24+8*B,22)
210 NEXT B
220 FOR C=2 TO 14
230 CALL SCREEN(INT(16*RND)+1)
240 FOR D=2 TO 14
250 CALL COLOR(D,D,C)
260 NEXT D
270 CALL KEY(0,E,F)
280 IF F<1 THEN 270
290 NEXT C
300 GOTO 220

```

HAPPY NEW YEAR
from the
'BYTEMONGER'

January 1985

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	31		

February 1985

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March 1985

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31						

April 1985

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May 1985

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June 1985

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July 1985

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August 1985

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25	26	27	28	29	30	31

September 1985

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21	22	23	24	25	26	27
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October 1985

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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November 1985

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17	18	19	20	21	22	23
24	25	26	27	28	29	30

December 1985

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
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21	22	23	24	25	26	27
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