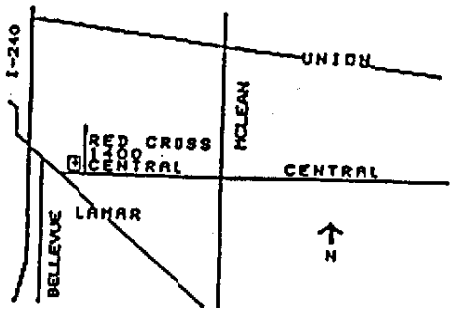
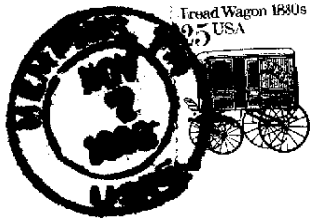
NOTICES

MEETING
7:00 P.M.
Thursday, November 17th
Red Cross Building
1400 Central Ave.

WORKSHOP
9am till Noon
Saturday, November 26th
Location
To Be Announced



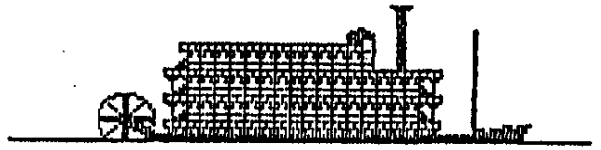
Mid-South 99 Users Group
P. O. Box 38522
Germantown, TN 38183-0522



UG 2/86
DALLAS TI USER GROUP
P.O. BOX 29863
DALLAS, TX 75229

TIdbits

MEMPHIS TENNESSEE



MID SOUTH 99 USERS GROUP

NOVEMBER 1988 ISSUE

Happy Thanksgiving

Newsletter for the MID-SOUTH 99 USERS GROUP Vol 6, #9 SEPT. 1988

TIDBITS

OFFICERS

Mac Swope	PRESIDENT	901-363-3880
Richard Hiller	VICE-PRESIDENT	901-794-9945
Gary Cox	SECRETARY	901-358-0667
Bob Jones	TREASURER	901-363-9213
Michael Dorman	Midnight Hour BBS SysOp	501-732-5126
David Ferguson	Disk Librarian	901-795-3287
Richard Hiller	CO-Librarian	901-794-9945
Michael Dorman	Editor - Newsletter	501-732-5126
Gary Cox	Program Chairman	901-358-0667
Al Doss	Information and Assistance	901-743-6781
Mac Swope	Chairman - Equipment	901-363-3880

NOVEMBER 1988 INDEX

IN THE NEWS

By Gary W. Cox

Due to the timing of the Chicago TI Faire many of the officers of the group and in particular the newsletter production crew will be in Chicago the weekend that we usually produce the newsletter. Therefore, this months issue will probably be somewhat smaller than usual... We will have news of the Chicago TI Faire at this month meeting as well as we will be demonstrating software and/or equipment obtained at the faire. More detailed news of the faire will appear in the December newsletter. We may also have a surprize demonstration this month.

This month is also nomination month where nominations will be taken for the offices of President, Vice-President, Secretary and Treasurer. Elections will be held in December.

Speaking of the newsletter we have run into a problem in production. Throughout most of the history of our group we have been able to print the newsletter at little or no cost. That 'FREE' service is no longer available and if we keep up a 20 page newsletter each month costs will be about $70 for printing plus $50 for postage! Until we can find someone with a copier to use we will be reducing the size of the newsletter. As another cost saving move we have voted to eliminate the $10 associate membership as of December 31, 1988. The $10 really did not cover costs as it was and now with our increased expenses we are having to cut costs and trim expenses wherever possible. Anyone wishing to renew for the $10 membership (newsletter only) can do so until December 31st 1988. Note we also do not turn down donations if you would like to add maybe an extra few dollars onto your dues... Due to our greatly increased costs we have temporarily voted to put on hold our plans for extension of the toll free calling area of our BBS.

Looking to the news Asgard Software has released BATCH IT, a programming language similar to that used with BATCH files on PC's. According to the manufacturers' description users are able to write commands that are executed by other programs or by the press of a single key. Asgard says the program will work with any program in any language, including TI-Writer, PR-BASE, Telco and drawing programs. Suggested retail is $19.95 and required a disk system, 32K and Mini-Memory, Superspace or Supercart or the 9640.

Donaldson Software of 521 Lievre St, Buckingham, Quebec, Canada J8L 2C2 has released two new games and plans to release a new word processor. The first game called New World Voyages is written in XB and sells for $12.95. The second game called Titan's Revenge is another space oriented game where the user tries to stop the Titans from occupying seven asteroids bases between the orbits of Mars and Jupiter before they reach Earth. The program written in TI BASIC sells for $9.95. The wordprocessor written in XB is expected to sell for $12.95. Write for more information.

Genial Computerware of P.O. Box 183, Grafton, MA 01519 has

released MacFlix (allows TI and Geneve users to access Macintosh graphics). Also, updated is Genial's Graphics Expander which now includes the ability to shrink graphics and fonts and scheduled for release last month is the a new database program called FIRSTBASE. For a catalog of these and other products send a self addressed stamped envelope to the address above.

According to rumor a new operating system is currently being written for the TI99/4a. The system is expected to be similar to CP/M or TRSDOS with further expansion possible. Furthermore, the OP system is expected to have batch file capability, interrupt detection of the terminal, spooling, DSR access of any device attached to the system, can use a real-time clock and use extra memory. The system may possibly be placed onto an EPROM to be installed on the 'prototyping board'. According to my information the system will operate by taking over before the console GPL OP system does. The system was described as being half way finished.

I would like end by welcoming a new member Leslie Wayne Harper from Memphis!

Due to the quick production time of this month's issue this is all the news that I have collected for this month... Please come to the meeting!

STATIC ELECTRICITY

By Gary W. Cox

Two months ago, I spoke of Surge Protectors, however your body can carry something just as deadly as power surges to a computer and that's static electricity. If you have carpet in your home like I do, walking across the carpet and then touching a metal object a nice little shock can result. The computer is not imune to this shock. The most dangerous period for this static buildup is during the winter time when it is most prevelant. Touching the computer with a static charge can seriously damage a computer. In fact, many people who work on computers (especially when handeling memory chips) put on a ground strap which grounds their body and prevents a static buildup.

Wearing a static strap ever time you use your computer is a little impractical but several simple safety tips can be followed to prevent your computer from being zapped by static electricity. The bottom line is that you must ground yourself before you touch the computer. However, don't go sticking your finger in a light socket, sure that will ground you, that is litterally ground you! Before using your computer touch something that is grounded such as the back of the PEB to discharge static electricity. I have a "touch me" pad which I purchased for about $10 a few years ago which is attached to a ground. So before I sit at my computer I touch the pad and go about my business. If you really want to get elaborate grounded static mats can be purchased which go under the computer desk. You can even purchase static free carpet.

However, more practically a "touch me" pad will do. Computer stores carry several type of static discharge pads. One for example, goes below your space bar where your hands rest while typing. This way you usually always hit the pad weather you meant to or not so there is no way that you can forget to touch the pad.

Besides my "touch me" pad I have also purchased a bottle of "Anti-static Spray" which I spray on the carpet. This spray prevents any static buildup to begin in the first place. Treat your computer good and it will treat you good.

FOR SALE

Club TI99/4a system including TI PEB, TI 32K, TI Disk Controller one SS/SD drive and Black and Silver console with manuals, power supplys and modulator. Best offer over $200 accepted. If interested call Gary Cox at (901) 358-0667 or Mac Swope (901) 363-3880.

Black and Silver console with cassette cable. Call Tray Adams at (901) 362-6531.

Complete TI99/4a system including console, TI PEB, TI 32K, TI RS232, TI Disk Controller, TI SS/SD drive, 13" BW TV, Extended BASIC, Mini Memory, Disk Manager, Home Financial Decisions, TI-BASE, EZKEYS, TI-Artist, Explorer by Millers Graphics, Editor/Assembler, all original programs including manuals with most of the programs plus a library of programs on disk many with printed documentation. Will only sell as a package, asking $350 FIRM. Contact David Watson, P.O. Box 1203, Dahlonega, GA 30533-9998 or call (404) 864-5771.

Check out the for sale table at the meetings for more deals plus the latest Micropendium is on sale at each meeting through our group purchase... NOTE commercial advertising available for businesses, write for details.

RELATIVE FILE SORTS

By Bill Gaskill

When I first tackled the job of learning how to program in extended basic I did so because I wanted to be able to write applications specific enough to meet my individual needs. I purchased most any book available on basic or extended basic programming and set about the task of finding example programs that contained the various algorithms in them that I wanted in my applications.

When I first started to program I used the RAM based data file storage method because that was about all I could find in the

soon discovered that the 32K memory limitation of the 99 limited the size of my files to only a few hundred records at best. As this was not acceptable, I turned to relative or disk based data file storage because I could store many times the number of records in a file on disk than could be created in a RAM based environment. The problem came when I tried to find an example program that sorted a disk based data file. There just didn't seem to be any.

Being able to sort data is perhaps one of the most useful aspects of any program, but it is also one of the most difficult parts of programming to learn. Many articles about sorting data files have appeared over the years, but few if any of them dealt with how to sort a relative file. Most of the articles I have seen assume that RAM based data files are being used and most of the example programs assumed that the information in the file is captured in a one-dimensional array. This is nice for illustration, but hardly practical for the Extended Basic programmer who really needs a working sort routine for a large capacity data file. If you use a RAM based data file you are going to be limited to about 500 records in the file at best (with a one-dimensional array) and about 150 records in the worst case (with a multi-dimensional array). With a disk based data file you are limited only by the disk space available.

The program that accompanies this article shows one method of sorting a multi-dimensional, disk based data file. No doubt there are many other ways to get the job done, some perhaps more efficient. But this one works and it allows over 1000 records to be sorted if two disk drives are available. The two drive requirement exists because the sort program reads a portion of each original record into memory, sorts that data and then writes a new file based upon the position of the sorted data in the sort table that is created and the relative record number of each original record that is attached to the data in the sort table. A single drive can be used if the size of the new file plus the existing one does not exceed the available disk space. You just have to remember to use a different file name for the new file.

The idea for this program came from reading Ralph Molesworth's book on assembly language programming. In the chapter on sorting, Mr. Molesworth pointed out that one of the things that escapes many programmers when dealing with sorting algorithms is the fact that an entire string or record does not have to be used for a sort. Instead, only the portion that the record is to be sorted on should be used. The trick is to build a method of reference back to the original record after the sort so that the file can be read based upon the key item that was used for the sort.

For example, let's say that you were dealing with a file that had a field named DATE and you wanted to sort the file by date. The only data that needs to be sorted is DATE data. As long as you have a means of equating each individual date back to the record that each date came from, you can use only date data in the sort table. The impact of this is that you will be able to sort much larger files in the tiny 32K memory environment you are limited to.

In the sort program, which I have written to be as generic as possible, a FIXED file must be used, and it is assumed that the file has a REC ZERO that contains at least the file size information. Thus when the source file is OPENed in line 190 the FS value from REC 0 is read to determine the number of records in the file.

There are 8 possible fields in my sample file that may be sorted on. You can choose the field to sort on by specifying its number (1-8), and you can choose the length of the data in the selected field to sort by (SL). This means that you could sort by the first 5 characters or values in a field even if it had a total of 10 characters. Using fewer characters decreases the accuracy of the sort but it allows larger file capacities to be sorted.

In the example program I allow up to 1100 records to be sorted in a single file. Thus the DIM statement in line 110 lists 1100 in the A$ and A arrays used. The N$(8) array dimensions memory for the eight fields that exist in each record. The A$(1100) allocates RAM for the 1100 string data items that are read into memory for the sort and the A(1100) dimensions enough RAM to hold the relative record number of each record read in the file.

When SORT first opens it prompts for a file name to use and then a field on which to sort the file (SF). Line 170 asks for a "Depth of Sort:" (SL). The number that is entered here should not be higher than the length of the field you are going to sort the file on.

Line 190 opens the file specified and reads in the number of records that exist in the file based upon the value of FS.

Line 200 then reads each record from disk sequentially, taking into memory only that portion of each record that you specified;

```
A$(R)=SEG$(N$(SF),1,SL)
```

This is where the large file size sorts are made possible. Only a portion of the actual record is being read into memory and then sorted.

Line 200 also creates an array that keeps track of the relative record number for each record being read, to later use it in matching sorted data with the actual record that needs to be read from the source file and then written to the target file;

```
A(R)=R
```

When the contents of the file are in memory the sort begins. The entire sort algorithm is found in lines 220-310. The algorithm used is a modified Shell-Metzner sort that continually splits the file in half to make comparisons.

During the sort line 310 re-positions the data being sorted and also takes the relative record number of the data along with it. That is the key to the actual re-write for the target file that is created later.

When the sorting is done (when U is equal to zero) the program prompts for a target file name. The DSK# and file name must be entered.

Line 360 then re-opens the source file while line 380 creates the target file. Line 370 is used only to segment the file name portion of I$ if you want to write it to REC 0 of the target file. If not, it may be eliminated.

Line 390 sets up the loop that will determine the number of records read from the source file and written to the target file. It also performs another critical task, that of telling the program which record to read next.

```
D=A(G)
```

Line 400 reads the appropriate record from the source file into memory.

Line 410 checks to see if the record just read is REC 0. If it is the record is not written to disk because it already exists from the PRINT #3 statement in line 380. Once D is not equal to zero the write of each record to the target file begins in line 420.

Note that REC D is read, but REC G is written. This allows the target file to be a sequential re-write of the source file with each new record written being the record read from the source file based upon the relative record number in the sort table. The sort table by the way is the A(1100) array.

When all records are written to the new file both it and the source file are closed in line 430.

While the SORT program is a total of 54 lines long it could be made even shorter. Much of what you see is cosmetic because I like to write clean, professional looking programs. The really important lines are those mentioned above. They are the coding that make things happen.

A practical application for this program might be sorting a data file created with John Taylor's popular Checkbook and Budget Management program.

To sort a CBM file you need only 7 elements in the array N$() and a maximum of 400 in A$() and A(). Those are limitations set by CBM.

Next you would have to add a second variable to the REC ZERO statements besides FS. CBM uses RC,SS in its REC ZERO variables. RC is the equivalent of FS in the SORT program. You needn't change FS to RC though. Just add SS so that the file reads properly.

To load the file you would enter DSK1., the word DATA and then the year and month of the file to be sorted. For example, if you wanted to sort the January 1988 checkbook file you would type in:

```
DSK1.DATA8801
```


as the file name to load. Then choose the desired field, such as 2 for DATE, enter a number no higher than 8 as the sort depth and away you go.

```
100 CALL INIT :: CALL LOAD(-
31806,16):: CALL CLEAR :: GO
SUB 510 :: DISPLAY AT(2,1):"
     File Sort Utility":RPT$
("",28)
110 OPTION BASE 0 :: DIM N$(
8),A$(1100),A(1100):: ON WAR
NING NEXT
120 DISPLAY AT(22,1):"Enter
the DSK#. and the nameof the
 file to be sorted" :: C=1
130 DISPLAY AT(5,1):"File to
 sort:" :: ACCEPT AT(5,14)BE
EP:H$ :: IF H$="" THEN 440 E
LSE IF H$="/" THEN 440
140 GOSUB 500 :: DISPLAY AT(
7,1):"Correct? (Y/N):" :: AC
CEPT AT(7,16)SIZE(1)VALIDATE
("YN"):YN$
150 IF YN$="/" THEN 440 ELSE
 IF YN$="Y" THEN 160 ELSE 12
0
160 DISPLAY AT(17,1):"Choose
 Sort Field:1" :: ACCEPT AT(
17,19)SIZE(-1):SF :: IF SF<1
 OR SF>8 THEN 160
170 DISPLAY AT(19,1):"Depth
of sort:" :: ACCEPT AT(19,15
):SL
180 DISPLAY AT(17,1):" ":" "
:" ":" " :: ON ERROR 480
190 GOSUB 540 :: OPEN #1:H$,
RELATIVE,INPUT ,INTERNAL,FIX
ED 80 :: INPUT #1,REC 0:FS
200 FOR Z=0 TO FS :: INPUT #
1,REC R:N$(1),N$(2),N$(3),N$
(4),N$(5),N$(6),N$(7),N$(8):
: A(R)=R :: A$(R)=SEG$(N$(SF
),1,SL)
210 DISPLAY AT(7,23):R :: R=
R+1 :: NEXT Z
220 CLOSE #1 :: AB=R :: U=1
230 DISPLAY AT(11,2):" *****
 SORTING DATA *****" :: DISP
LAY AT(12,7):"do not interru
pt"
240 U=2*U :: IF U<AB THEN 24
0
250 U=INT((U-1)/2):: IF U=0
THEN 320
260 FOR H=0 TO AB-U :: F=H
270 Q=F+U :: IF A$(Q)<A$(F)T
HEN 300 ELSE 290
280 F=F-U :: IF F>0 THEN 270
290 NEXT H :: GOTO 250
300 DISPLAY AT(22,1):"Workin
g..."
310 G$=A$(F):: A$(F)=A$(Q)::
 A$(Q)=G$ :: G=A(F):: A(F)=A
(Q):: A(Q)=G :: DISPLAY AT(2
2,1):" " :: GOTO 280
320 DISPLAY AT(11,2):" *****
 SORTING DONE *****      " :
: DISPLAY AT(22,1):"Output f
ilename can't be thesame as
the input filename"
330 DISPLAY AT(17,1):"Save F
ile:" :: ACCEPT AT(17,11):I$
 :: IF I$="" THEN 440 ELSE I
F I$=H$ THEN 330
340 GOSUB 500 :: DISPLAY AT(
19,1):"Correct? (Y/N):":" "
:: ACCEPT AT(19,16)SIZE(1)VA
LIDATE("YN"):YN$
350 IF YN$<>"Y" THEN 320 ELS
E CALL HCHAR(10,1,32,10)
360 GOSUB 540 :: OPEN #2:H$,
RELATIVE,INPUT ,INTERNAL,FIX
ED 80 :: INPUT #2,REC 0:FS
370 L$=SEG$(I$,6,LEN(I$))
380 OPEN #3:I$,RELATIVE,UPDA
TE,INTERNAL,FIXED 80 :: PRIN
T #3,REC 0:FS
390 FOR G=0 TO FS :: D=A(G)
400 INPUT #2,REC D:N$(1),N$(
2),N$(3),N$(4),N$(5),N$(6),N
$(7),N$(8):: ON ERROR 490
410 IF D=0 THEN 430
420 PRINT #3,REC G:N$(1),N$(
2),N$(3),N$(4),N$(5),N$(6),N
$(7),N$(8):: DISPLAY AT(22,1
0):D;"/";C :: C=C+1
430 NEXT G :: CLOSE #2 :: CL
OSE #3
440 DISPLAY AT(17,1):"": :"
  F6-Sort another F9-Exit" :
: CALL KEY(0,KK,SS):: IF SS=
0 THEN 440
450 IF KK=15 THEN 470 ELSE I
F KK=12 THEN 460 ELSE 440
460 DISPLAY AT(19,1):"Initia
lizing memory..." :: CALL LO
AD(-31962,160,4)
470 CALL CLEAR :: CALL LOAD(
-31952,255,0,255,0)
480 DISPLAY AT(22,1):"Can't
find that file...      " ::
CALL LOAD(-31962,160,4)
```

```
490 DISPLAY AT(22,1):"Insuff
icient disk space" :: GOTO 4
40
500 DISPLAY AT(22,1):"Enter
an upper case Y if thename i
s correct, an N if not" :: R
ETURN
510 CALL CHAR(126,"00FF",129
,"FF00FF0000000000010101010
0101010000000000FF00FF808080
8080808080")
520 CALL HCHAR(1,1,129,31)::
 CALL VCHAR(1,1,130,4):: CAL
L HCHAR(4,2,131,30):: CALL V
CHAR(1,32,132,4)
530 CALL HCHAR(21,1,129,31):
: CALL VCHAR(21,1,130,4):: C
ALL HCHAR(24,2,131,30):: CAL
L VCHAR(21,32,132,4):: RETUR
N
540 DISPLAY AT(22,1):"":"" :
: RETURN
```

QUESTIONS AND ANSWERS

By Gary W. Cox

This is hopefully the beginning of a series of articles to answer people's questions. Through out the month we receive various questions pertaining to programing, hardware and just general questions. If you have any questions that you would like answered in this article just write to me at: Gary Cox, 3174 Melbourne, Memphis, TN 38127.

Some of the questions that I receive are sometimes not TI99/4a related but just related to computers in general, below are a few of them:

What does DOS stand for? DOS stands for Disk Operating System or more correctly just Operating System. The operating system is the main means of operation for a computer. The operating system controls all functions of the computer. For IBM compatible computer systems the operating system is located on disk and is loaded each time the system is turned on. With the TI99/4a the operating system is located in ROM (read only memory) or more exactly GROM 0 in the console. On the other hand, the Myarc Geneve 9640 has the operating system on disk. The advantage of having an operating system on disk is that it can be updated to correct bugs or to add features. The disadvantage of an operating system on disk is that it takes time to load as well as it is more easily damaged or more easily infected by a 'computer virus'. An advantage of an operating system located in ROM can not be changed thus can not be infected by a 'computer virus' and is not easily damaged plus the system is immediately available as soon as it is turned on (no loading time for the operating system). Note though that the TI99/4a operating system can be bypassed by a device such as the Gram Kracker and in that case it can be modified and thus operational the same as a disk based operating system. Some of the common names for operating systems include MS-DOS, PC- DOS, Unix etc...

What does 100% IBM compatible mean? The term 100% IBM compatible means that a system conforms to standards set by IBM. Thus if a system conforms 100% to IBM standards that system should operate any program that will run on a true IBM system (referred to as a True Blue). For example, that's the reason that a person can take

a program from a 100% IBM compatible Blue Chip (brand name) computer and run it on a 100% IBM compatible Laser Turbo XT (brand name). Originally all IBM clones (systems which are IBM compatible but are not made by IBM) were not 100% compatible and thus would not run all the programs that an 'true blue' would. Today most clones that claim 100% compatibility are really 100% IBM compatible but what the user must be careful of is weather or not the system has the equipment necessary to run the program such as many programs require a full 640K or a mouse, hard drive etc... The TI99/4a is NOT IBM compatible but through several programs we are able to read disks formatted by IBM compatible and thus can access some of the data on those disks.

What do the terms Turbo, XT and AT mean? Many systems which run with an 8088 microprocessor (the microprocessor needed in order to be IBM compatible) operate at only one speed with that being 4.77 MHZ (the higher the number the faster the system). Those systems which are listed with the word Turbo have the ability to run at a second, faster speed usually 8 MHZ or 10 MHZ. Sometimes the faster speed is not desired thus the reason both speeds are provided. A reason that the faster speed would not be advisable would be when playing a game as the faster speed would also speed up the game (unless the game timer is tied to the systems built in real time clock). The term XT refers to systems using an 8088 microprocessor. AT systems operate with a later model microprocessor (still compatible with programs written for the 8088) such as the 80286 or 80385 which provide faster speeds and more features than the 8088...

Getting back more specifically to the TI99/4a one question that I was asked was if it was possible to have too large of a power supply for a disk drive? The answer to that question is NO as long as the voltage requirements are met (5 and 12 volts). The largeness (if there is such a word) of a power supply is determined by it's AMPERAGE. Certain drives require a certain amount of AMPERAGE in order to operate and usually a different AMPERAGE is required for the 5 and 12 volt lines to a disk drive. As long as enough AMPERAGE is provided to a drive as stated in the drive's specifications it is fine and it is ok to provide more AMPERAGE than necessary as the drive will only use as much power as it needs but usually the higher the amperage of a power supply the more expensive the power supply becomes. This brings up a note that the TI PEB can only power one full height disk drive or two low power half height disk drives. The TI PEB can NOT power a hard drive as it can not provide the needed AMPERAGE necessary. In a case where the TI PEB can not supply enough AMPERAGE an external power supply is needed.

Should I place a cooling fan on my TI99/4a console? If you have the black and silver model and use it for long periods of time the answer is YES. Heat can eventually destroy electronic components. I purchased a small cooling fan for about $8 which I turn on pointed toward the vents in the console to keep it cool when using the computer for long periods of time. Those who own a white console do not need to use a cooling fan as in the later model consoles the power supply was improved to run cooler.

IN THE MIDNIGHT HOUR

By Michael Dorman

This is the big week of the Chicago TI Faire/Convention! I've been especially looking forward to this year's Faire for a long time. This is the one time a year I get to treat myself to a "just for me" weekend. I may even be able to go to Milwaukee for the Sunday TI Faire for the first time. That will be an extra treat for me since several members of the Milwaukee group are doing some exciting things with the Myarc 9640.

Speaking of the Geneve, Genial Computerware should be introducing the new GIF encoder/decoder by Paul Charlton. The name of the program is Picture Transfer and it will convert TI Artist, RLE, Graphx, etc. to GIF and/or TI-Artist. It has the ability to resize GIFs and change interlace modes on the fly.

Press, the new word processor by Charles Earl, is expected to be shown at Chicago also by Asgard Software. Press promises to be a significant advancement in TI word processing. If Telco is any indication of the degree of professionalism in Press, then Press will be a "must buy" item.

If you haven't called the Midnight Hour BBS lately, there is a new addition to the board. Ye Search the Scriptures, a Bible search program, is online with the complete King James Bible. You are able to search the Bible or any book(s) of the Bible for any words or combination of words in either 40 column or 80 column mode. YSTS is a really fine modem Bible search program. This is a good alternative to those folk who have a modem but do not have 4+ megs of storage to keep the Bible on.

As usual, the Midnight Hour BBS boasts one of the finest and most current collection of public domain and fairware TI and Myarc programs around (as well as a rather interesting message base featuring some of the more entertaining and interesting people I know!)

Lastly, following this article is a reprint of a listing of books for the TI-99/4A which was printed in the Boston Computer Society TI-99/4A User Group newsletter. The listing is by Mike Wright and is based on work published by Barry Traver in Genial Traveler 1.2.

LIST OF BOOKS FOR THE TI-99/4A.

by Mike Wright. Version 29-Jun-88.

Supplement to the BCS TI-99/4A User Group July 1988 meeting newsletter.

A "book" is considered to be something that is typeset, printed (not photocopied) and published. A manual supplied with a cartridge — such as the TI Extended Basic manual — or with a device — such as the RS232 manual — is not considered a "book" for this listing, even though it contains valuable information. However, manuals such as the Terminal Emulator Protocol Manual, which were not generally available, are considered to be "books".

This list is based on the one published by Barry Traver in Genial Traveler 1.2. It has been expanded with titles published or "discovered" since then. The portions extracted from Traveler are published by permission of Barry Traver.

An entry consists of: the book title, the author(s), the publisher, and year of publication. Then follows a short description of the contents of the book with, sometimes, an evaluation that tries to be as objective as possible.

An entry that consists of just the title (and perhaps the publisher) has usually been taken from a catalog. The actual title may not be 100 per cent accurate, but is included for completeness.

If you come across any errors or omissions please write to me care of the BCS so that the list can be kept up to date.

1, 2, 3, My Computer and Me by Donna Bearden. Prentice-Hall, 1983. Though not just for the TI, this "Logo funbook for kids" contains an appendix on "editing features for Apple Logo, MIT Logo, and TI Logo".

32 Basic Programs for the TI-99/4A by Tom Rugg and others. dilithium Press, 1984. Programs include applications, education, games, graphics display, and mathematics. 30 programs in TI Basic, 2 in TI Extended Basic. The programs can be ordered on disk or cassette.

33 Programs for the TI-99/4A by Brian Flynn. Compute! Publications, 1984. Although this book contains a few games, including a version of "Chomp" called "Vanilla Cookie", it is primarily concerned with programs that are mathematically-oriented, including money management and business programs, curve-fitting routines, matrix manipulations, statistics, and numerical analysis, all in Extended Basic.

36 Texas Instruments TI-99/4A Programs for Home, School and Office by Len Turner. ARCsoft, 1983. Many other books on this list contain a much better selection of programs in TI Basic.

101 Programming Tips and Tricks for the Texas Instruments TI-99/4A Home Computer by Len Turner. ARCsoft Publications, 1983. An unimpressive book carried in many bookstores.

Academic TI (see The Academic TI).

Basic Programs for Small Computers by C. Regena. Compute! Publications, 1984. Although this book contains "things to do in 4K or less" for other computers (notably the Vic-20 and TRS-80), it also contains programs in TI in TI Basic for the TI-99/4A.

Basic TIPS by AMLIST by Terrance K. Castle. AMLIST, 1983. An unexpectedly fine book, even though it restricts itself essentially to TI Basic. Its greatest strength is that it teaches not merely TI Basic, but principles of good programming practice in general, unlike most books otherwise similar.

Basic Tricks for the TI-99/4A by Allen Wyatt. Howard W. Sams, 1984. Available with optional program cassette. A good collection of 28 useful subroutines dealing with selective input, rounding, dollars and cents, report formatting, time and dates, upper and lower cases, sorting, and menus.

Computer Art and Animation: A User's Guide to TI-99/4A Color Logo by David D. Thornburg. Addison-Wesley Publishing Company, 1984. This book is also an introduction to TI Logo, more general in content than the title might suggest.

Computerfacts. Sams, April 1984. Includes schematics and picture foldouts showing component placement on the 4A main board. Contains a complete parts list with optional replacement components, disassembly instructions, and hints on troubleshooting. There are also adjustment procedures and diagrams of the required oscilloscope waveforms.

Computer Playground on the TI-99/4A by Mary Jean Winter. A colorful colection of TI Basic computer activities intended for children in grades 2 through 6. Adapted for the TI-99/4A by Marcia Carrozzo.

Compute!'s Beginner's Guide to Assembly Language on the TI-99/4A by Peter M.L. Lottrup. Compute! Publications, 1985. Although oriented toward Mini-Memory, this book is excellent for beginners, with very clear explanations and lots of short but useful program examples.

Compute!'s First Book of TI Games by C. Regena. Compute! Publications, 1983. 29 games for the TI-99/4A, mostly in TI Basic, but including 7 in TI Extended Basic, including the excellent "Mystery Spell" and "Mosaic Puzzle".

Compute!'s Guide to Extended Basic Home Applications on the TI-99/4A by Christopher Flynn. Compute! Publications, 1984. An excellent book containing data file management utilities, bar graph programs, an electronic card file, an appointment calendar, and two electronic spreadsheets. Flynn's programs always allow data to be saved on either tape or disk.

Compute!'s Guide to TI-99/4A Sound and Graphics by Raymond J. Herold. Compute! Publications, 1984. A fairly good guide to sound, graphics, and speech synthesis on the TI-99/4A (including coverage of TI's text-to-speech diskette). Of the games, "Alphabet Invasion" and "Slot Machine" are done quite well.

Compute!'s TI Collection: Volume One. Compute! Publications, 1984. A worthwhile collection of "over 30 TI-99/4A games, applications, utilities, and tutorials – most never before published", including a word processor, a data base management system, an electronic spreadsheet, some games, helpful programming tricks, and a super graphics program called "SuperFont".

Cracking the 99/4A by Brian Prothro.

Creating Arcade Games on the TI-99/4A by Seth McEvoy. Compute! Publications, 1984. With the exception of one chapter devoted to TI Extended Basic, this book tells "how to" write arcade games in TI Basic, and includes eight finished games.

Creative Programming for Young Minds... on the TI-99/4A. Four volumes: Volume I, Volume II, Volume III, Yellow All Stars. Creative Programming, 1981-1982. Hands-on instruction in TI Basic (plus some small later reference to TI Extended Basic). This series – like Carlson's *Kids and the TI-99/4A* — is "not just for kids".

Data and File Management for the TI-99/4A by John P. Grillo, J.D. Robertson and Henry M. Zbyszynski. Wm. C. Brown, 1984. "Includes 48 programs to give the more advanced user techniques for information management". All programs are in TI Extended Basic, and many make use of disk. Topics included: pointers, sorting, strings, linear and linked lists, sequential access files, direct access files, trees and inverted files.

Easy programming with the TI-99/4A by Richard Guenette and James Vogel. Birkhauser Boston, 1984. An introductory text that has little to distinguish it.

Entertainment Games in TI Basic and Extended Basic by Khoa Ton and QuyenTon. Howard W. Sams, 1984. Available with optional program cassette. A very fine program collection; "Frogger"-lookalike "Home Bound" is excellent. Book contains a few non-game programs, e.g., "Address Inventory" and "Auto Sprite Editor".

Financial Analysis on TI Computer by Joseph and Susan Berk. Chilton Book Company.

Free Software for Your TI-99/4A by David Heller and Dorothy Heller. Enrich Div./Ohaus, 1984. Although the information is not always entirely accurate, this book (now somewhat dated) contains much information not readily available elsewhere.

Fundamentals of TI-99/4A Assembly Language by M.S. Morley. TAB Books, 1984. A good book for those who have the Mini-Memory cartridge but not the Editor/Assembler.

Fun to progam your TI-99 series by Speed Walker, Pinnacle, 1984. A small book printed on cheap paper that contains many cartoons but nothing of substance.

Games TIs Play by Scott L. Singer and Tony E. Bartels. DATAMOST, 1983. 32 TI Basic game programs based on the book Games Apples Play by Mark James Capella and Michael D. Weinstock. (Programs are available on disk.)

Get Personal with your TI-99/4A by William A. Manning and Lon Ingalsbe. dilithium Press, 1984. A fairly comprehensive introduction to programming in TI Basic with many short example listings.

Hardware Manual for the Texas Instruments 99/4A Home Computer by Michael L. Bunyard. The Bunyard Group, 1986. A complete reference to all hardware aspects of the 4A. Includes sections on the TMS 9900 processor, the PE Box, and all TI manufactured cards. The author is a former senior member of the technical staff of TI.

How to build your own working16-bit microcomputer by Ken Tracton. TAB, 1979. Although not strictly for the TI-99/4A, this book covers the fundamentals of the TMS 9900 processor. At the time of its introduction the TMS 9900 was considered to be the most advanced single-chip processor available.

How to feel at home with a home computer by Garry G. Bitterand Roger S. Walker. Texas Instruments, 1983. This is probably as good an introduction as there is to the Home Computer. It is well presented and full of informative pictures and diagrams. Unfortunately for TI this first-class book was published after they pulled out of the home computer market.

How to use the TI-99/4A Computer by Bill Brewer and Jerry Willis. dilithium Press, 1984. A good introductory book with many useful half-tone illustrations, including all the ill-fated Hex-Bus peripherals.

Introducing Logo: For the Apple II Computer, Texas Instruments 99/4A, and Tandy Color Computer by Peter Ross. Ross comments that "TI Logo differs from Terrapin Logo and Apple Logo in several important ways... The main difference is that TI Logo has 'sprites' and 'tiles' as well as the turtle". TI Logo II also has music. Ross' book is useful, but perhaps unspectacular.

Introduction to Assembly Language for the TI Home Computer by Ralph Molesworth. Steve Davis Publishing, 1983. Primarily for use with the Editor/Assembler, but also can be used with Mini-Memory.

Introduction to Graphics for the TI-99/4A by John P. Grillo, J.D. Robertson and Terry F. Zbyszynski. Wm. C. Brown, 1984. Includes 38 programs in TI Extended Basic, some making use of disk, BUT note this comment by the authors: "In this book, we have limited our discussion to low-resolution graphics only. We do not discuss the color, sound, joystick, and lightpen features of this fine machine. We hope to cover these topics in a subsequent book".

Introduction to TI Basic by Don Inman, Ramon Zamora and Bob Albrecht. Hayden Book Company, 1980. A straight-forward textbook on TI Basic which does not go far beyond the two manuals supplied with the TI-99/4A.

I speak Basic to my TI-99/4A by Aubrey B. Jones. Hayden, 1984. This book claims to be a "field-tested computer literacy course that introduces students to Basic language programming". It is a large book set in large type that largely covers the information in the User's Reference Manual.

Itty Bitty Bytes of Space.

Kids and the TI 99/4A by Edward H. Carlson. Reston Publishing, 1982. This book is truly "not just for kids", but one of the best introductions to learning how to program in TI Basic.

Learning TI-99/4A Home Computer Assembly Language Programming by Ira McComic. Wordware, 1984. A good book for beginners who have the Editor/Assembler but no previous experience in assembly language.

Learning with Logo. McGraw-Hill, 1983 by Daniel Watt. Although mainly concerned with Terrapin/Krell Logo and secondarily with TI Logo, this is one of the best and most comprehensive books on Logo presently available.

Micronova's Home Computer Directory for the TI-99/4A. Micronova, 1983. A useful book when it first appeared, although some of the information is now significantly dated.

Night Mission by Craig G. Miller. Millers Graphics, 1985. Although usually sold as a game (plus instructions), this is really a 90-page book (plus cassette), similar to the Sams "combo" packs. Here the author provides not only extremely full documentation and detailed explanation of a nice arcade-style XB game, but also other worthwhile programming material (e.g., "The Power of AND" plus many useful CALL PEEKs and CALL LOADs).

Numerical Analysis with the TI.

Orphan Survival Handbook by Dr. Ron Albright. Disk Only Software, 1987. A collection of articles extracted from user group newsletters and organized into sections on Basic, Assembly, c99, Forth, Pascal and Pilot, Hardware, Telecommunications, and TI Writer.

Programmer's Reference Guide to the TI-99/4A by C. Regena. Compute! Publications, 1983. Not so much a reference guide as an instruction manual on how to program in TI Basic, this book contains 48 programs by popular columnist Cheryl Whitelaw (or "Regena" of 99'er and Compute! fame).

Programming Basic with the TI Home Computer by Herbert D. Peckham. McGraw-Hill Book Company,

1979. Another straight-forward textbook on TI Basic, going a bit further than Inman's *Introduction to TI Basic*.

Programming Discovery in TI Logo. Texas Instruments, 1982. This attractive "student guide" was used by Texas Instruments with their Computer Advantage Clubs and is very well designed.

Programs for the TI Home Computer by Steve Davis. Steve Davis Publishing, 1983. Four dozen programs that do make use of the special features of the TI-99/4A. Most of the programs only require TI Basic and a cassette system, though some make use of TI Extended Basic, disk system, memory expansion, or Terminal Emulator II and speech synthesizer.

Scott Adams Adventure Hints

Smart Programming Guide for Sprites by Craig G. Miller. Millers Graphics, 1983. This book contains many examples of ways to improve your programs by using sprites. In particular, there are techniques listed that will allow you to achieve better coincidences.

Sprites, A Turtle, and TI Logo by Jim Conlan and Don Inman. Reston Publishing, 1984. "A friendly, playful introduction to the TI Logo computer language", very well done.

Starting Forth by Leo Brodie. Prentice-Hall, 1981. This is the book recommended in the TI Forth manual. Brodie combines cartoons with an elegant simplicity of presentation as he unfolds the intricacies of Forth.

Stimulating Simulations for the TI-99/4A by C.W. Engel. Hayden Book Company, 1984. 11 "simulation game programs" in TI Basic, 2 in TI Extended Basic, adapted from a popular book first published in 1977.

Taking off with Basic on the TI-99/4A.

Technical Drive by Monty Schmidt. Monty Schmidt, 1987. Contains hard-to-find information on how to access peripherals using their built-in Device Service Routines (DSRs). Includes commented disassembled DSRs for the Mini Memory, Corcomp 9900 clock card, TI RS232 and TI Disk Controller.

Terrific Games for the TI 99/4A by Hal Renko and Sam Edwards. Addison-Wesley Publishing Company, 1983. A mixed bag of 30-some unusual game programs from the Netherlands in TI Basic and TI Extended Basic.

Texas Instruments Basic Programming for Adults by staff of TI Computer Advantage Club. Texas Instruments, 1983. This was the course book for the TI Computer Advantage Club. It is designed for the absolute beginner.

Texas Instruments Computer Awareness Program for Children by staff of the TI Learning Center. Texas Instruments, 1982. This was the course book for the TI Computer Awareness Program. It was designed to let children discover computers, learn how they work and see what they can do. Includes a few pages on introducing Logo.

Texas Instruments Home Computer Games Programs by Len Turner. ARCsoft, 1984. A poor collection of Basic games including two variations of High-Low numbers because it's "the all-time most favorite computer game".

Texas Instruments Terminal Emulator Protocol Manual. Texas Instruments, May 18, 1981. This manual provides a complete description of the communication protocol used by the Terminal Emulator 2 package. It describes the steps needed to display text, create and display graphics and create and execute sound and speech on the TI-99/4A using the TE2 protocols.

The Academic TI by Richard Mowe and Ron Mummaw. Reston Publishing, 1984. A broad introduction aimed at younger users, but includes sections on Logo, Writing Software and TI Writer.

The Best of 99'er: Volume 1. Emerald Valley Publishing, 1983. A very worthwhile collection of articles on "Starting Out", "Programming Techniques and Languages", "Inside Basic and Extended Basic", "Logo", "Assembly Language", "Computer-Assisted Instruction", "Computer Gaming" and "Applications and Utilities".

The Best of TI-99/4A Cartridges by Thomas Blackadar. SYBEX, 1984. As the title indicates, this book covers only some of the cartridges, and not always the best. Nevertheless, this is one of the few books that has any significant treatment of cartridges for the TI.

The Best Texas Instruments Software by the editors of Consumer Guide. Publications International, 1984. Contains one-page program reviews (Basic, Xbasic and cartridges) with ratings. Subjects include: word processing, business, home, education, networking, strategy games, arcade games and programming aids.

The Elementary TI-99/4A by William B. Sanders. DATAMOST, 1983. This book contains useful chapters on "Data and Text Files" and "You and Your Printer", topics usualy ignored in similar books.

The Hidden Power of Disk Fixer by Bill Gronos. Navarone. This is a 45-page "supplement" to the Disk Fixer manual that contains a clock full bag of tricks. Gronos was the assembly language specialist on Enthusiast 99.

The Innermost Secrets of the TI-99/4A by Randy Holcomb. Patch Publishing, 1984. A collection of articles from Randy's Ravings, a column published in Computer Shopper magazine. Includes a complete disassembly of the RS232 DSR.

The Last Whole TI-99/4A Book: Programs and Possibilities by Paul Garrison. Wiley Press, 1984. Contrary to the promises on the cover, this is not "the only book you need", although it does cover a lot of ground (with a few inaccuracies here and there).

The Last Word on the TI-99/4A by Linda M. Schreiber and Allen R. Schreiber. TAB Books, 1984. "55 practical and entertaining programs, all written in TI Extended Basic", perhaps the best of which are "Battleship" and "Towers Game". (Programs are available on tape.)

The Orphan Chronicles by Ronald G. Albright. Millers Graphics, 1985. A must book! Here you have a very readable survey, informal and informative, of major people, groups, and events in the history of the TI-99/4A, the "orphan" computer. You'll find it impossible to put this book down once you start reading it.

The Texas Instruments Home Computer Idea Book by David H. Ahl. Creative Computing, 1983. "Includes 50 Ready-to-Run Educational Programs", but most of them seem to be written in minimal Basic and make no use of the special features of the TI-99/4A.

The Texas Instruments User's Encyclopedia (TI-99/2, 4, 4A) by Gary Phillips and David Reese. The Book Company, 1984. This is a moderately interesting book to pick up and page through, but the claim that it is your one definitive reference for the TI-99 seems a bit exaggerated.

The TI-99/4A in Bits and Bytes edited by Remo A. Loreto. Remo A. Loreto, 1983. A hodge-podge collection, but one containing within it a number of worthwhile programs (some in Extended Basic) and programming hints.

The TI-99/4A User's Guide by Bill Brewer. Macmillan, 1983. How can you not like a book whose cover blurb says this?: "There is only one home computer priced below $100 that has a microprocessor as powerful as the expensive IBM PCs. And that home computer has more educational cartridges produced for it than for any other system. It's the TI-99/4A, the best computer value for its price on the market today".

The TI-99/4A User's Guide by Carol Ann Casciato and Donald J. Horsfall. Howard W. Sams, 1983. An excellent book, carefully done, by two authors who know the TI-99/4A well.

The TI Playground by Fred D'Ignazio. Hayden Book Company, 1984. "23 programs for learning and fun", intended for young children.

The Tool Kit Series: TI-99/4A Edition. by Dave Dunthimer and Ted Buchholz. Howard W. Sams, 1984. Brief 5- to 15- line subroutines -- dealing with color, sound and music, graphics, animation, and computation -- that can be combined to form the basis of educational programs and computer games.

The User's Guide to Texas Instruments TI-99/4A Computer, Software, and Peripherals. Publications International, 1983. A useful guide by the editors of "Consumer Guide", this book has appeared in several different formats.

Things to Do with Your TI-99/4A Computer by Jerry Willis, Merl Miller and D. LaMont Johnson. New American Library, 1983. Part of a series prepared by dilithium Press, this book is fairly competent as an outside look, but unimpressive.

Thinking Forth by Leo Brodie. Prentice-Hall, 1984. This book expands the concepts in "Starting Forth" and stresses the importance of writing programs that not only work, but that are also readable, logical, and that express the best solution in the simplest terms. The book's sub-title is: A language and philosophy for solving problems.

TI-99/4A: 24 Basic Programs by Carol Ann Casciato and Don Horsfall. Howard W. Sams, 1983. Available with optional program cassette. Games, finances, home management, personal records, and utilities are included, all in TI Basic.

TI-99/4A: 51 Fun and Educational Programs by Gil M. Schechter. Howard W. Sams, 1983. Available with optional program cassette. All programs are in TI Basic, and all are probably 4K or less in size.

TI-99/4A Basic Programs by Timothy Orr Knight and Darren LaBatt. Howard W. Sams, 1984. Available with optional program cassette. Although these 30 TI Basic programs were also originaly written for the Commodore 64, they are more substantial than those contained in Knight's *TI-99/4A Graphics and Sounds*.

TI-99/4A Basic Reference Manual by Carol Ann Casciato and Donald J. Horsfall. Howard W. Sams, 1984. Only covers TI Basic and not Extended Basic. This book is essentially the User's Reference Guide with some embellishments.

TI-99/4A CALC by Gregory R. Schmalhofer. Howard W. Sams, 1984. If you have a minimal system (console plus cassette), here is a 676-cell spreadsheet you can use for calculating with numbers, formulas, and cell references.

TI-99/4A Console and Peripheral Expansion System Technical Data Manual. Texas Instruments. Contains specifications for designing devices that will be interfaced to the Home Computer. Includes timing diagrams and foldouts showing schematics of the 4A, flex cable interface and P-box. From a software point of view the discussion on PABs and DSRs is useful.

TI-99/4A Favorite Programs Explained by Donald C. Kreutner. Que Corporation, 1983. 40 practical and entertaining programs in TI Basic, with explanations.

TI-99/4A Game Programs by Frederick Holtz. TAB Books, 1983. 32 "games, puzzles, and brain teasers" in TI Basic, with explanations.

TI-99/4A Games by Allen L. Wyatt. Howard W. Sams, 1984. Available with optional program cassette. This 80-page book includes 11 games and 2 utilities, all in Extended Basic.

TI-99/4A Graphics and Sounds by Timothy Orr Knight. Howard W. Sams, 1984. Available with optional program cassette. 37 sample (and simple) TI Basic programs, originally written for the Commodore 64, most of which are rather trivial in nature.

TI-99/4A Intern by Heiner Martin. Verlag fur Technik und Handwerk, 1985. A complete and commented disassembly of the operating system of the 4A. Contains all GROM and ROM listings, as well as discussion of the Graphics Programming Language (GPL). A monumental reference work.

TI-99/4A Technical Data Manual. Texas Instruments.

TI-99/4A Trivia Data Base by James F. Hunter and Gregory L. Guntle. Howard W. Sams, 1984. Although the Trivia game included may be somewhat "trivial" and a shade slow, this is a valuable book for its detailed discussion of good programming techniques in general (including a number of flowcharts) and Extended Basic in particular (including discussion of the use of subprograms). It is also a fairly painless introduction to what data bases are.

TI Basic Computer Programs for the Home by Charles D. Sternberg. Hayden Book Company, 1984. Programs include automobile, conversion, home finances, kitchen helpmates, list, tutorial, and others, and each program is documented with description, symbol table, and output sample. The book is an adaptation for the TI-99/4A of Sternberg's *Basic Computer Programs for the Home*; now if only someone will do an adaptation of his excellent two volumes on *Basic Computer Programs for Business*!

TI Games for Kids by Robert F. Ingalls. Compute! Publications, 1984. An excellent collection of 32 educational game programs in TI Basic for children ages 2 to 17.

TI in Wonderland by Fred D'Ignazio. Hayden Book Company, 1984. "21 programs for learning and fun", intended for youngsters, by the popular author of Katie and the Computer.

TI Logo by Harold Abelson. McGraw-Hill Book Company, 1984. If you have TI Logo II, you already have this excellent book, but if you have TI Logo I, get it!

Timelost (Texas Instruments 99/4A Version) by Joseph C. Girrasano, Kris Austen Andrews and Arlin Keith Andrews. Que, 1983. This is a combination comic book, adventure game and Basic program listings. After reading a section of the book, you can key in the corresponding program and go head-to-head with the Slime Creatures and Pitdemons.

Using and Programming the TI-99/4A Including Ready-to-Run Programs by Frederick Holtz. TAB Books, 1983. Although this book is widely distributed, many chapters are either too elementary or too advanced to be of much benefit to the average TI-99/4A user.

Your First TI-99/4A Program by Rodnay Zaks. Like anything done by Zaks, this book is clearly written and well done. It is, however, as the title indicates, a book for those who are just beginning to learn "the basics of BASIC".

Zappers: Having Fun Programming and Playing 23 Games for the TI-99/4A by Henry Mullish and Don Kruger. Simon and Schuster, 1984. Many favorites in TI BASIC, including "Blackjack", "Hangman", "Hidden Word Search", "Othello" ("Flip-a-Disk"), "Simon", and "Tic Tac Toe".

NOTICE

Information contained in TidBits is accurate and true to the best of our knowledge. Viewpoints and opinions expressed in TidBits are not necessarily that of the Mid-South 99'ers. We welcome any opinions/corrections from our readers. Articles may be reprinted elsewhere as long as credit is given to the author and newsletter.

GROUP INFO

Visitors and potential members may receive 3 free issues of TiDbits while they decide if they wish to join (no obligation). On the top of your label is a code. A Y means you are a member, N means 3 free list, UG means user group and S means a business. Beside the Y is a date, one year from that date your dues are due. A dollar sign ($) on the label will indicate that your dues are due. The library is open only to FULL ($15) members. Library list is $1. Mail order disk library access is $2 per disk max of 5 disks per month order by disk number only. At meetings, library access is FREE if you exchange your disk for ours or $1 per disk for our disks. Send all mail order library requests to librarian's address! Send dues and correspondence to group address.

CALENDAR

MEETINGS: November 17, December 15 (3rd Thursday!)
WORKSHOPS: November 26, December 17
c99 CLASS: Every Thursday except meeting night, location TBA.

24HR TI BULLETIN BOARD

The Midnight Hour BBS 300/1200 bd 501-735-9980
Dial 735-9980 from Memphis area for toll free call.

GROUP MAILING ADDRESS

Mid-South 99 Users Group
P.O. Box 38522
Germantown, Tn. 38183-0522

LIBRARY ADDRESS

David Ferguson
3377 Creighton Ave.
Memphis, TN 38118

MEMBERSHIP APPLICATION

NAME _____ | | $15.00 FAMILY
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CITY _____ ST ZIP _____ | | $10.00 ASSOCIATE (N/L only)
PHONE( ) - ; INTERESTS _____
EQUIPMENT, ETC. _____

Detach and mail with check payable to: Mid-South 99 Users Group, P.O. Box 38522, Germantown, Tn, 38183-0522.