BITS,BYTES&PIXELS

LIMA 99/4A USERS GROUP

OCTOBER 1990 Volume 6,#8

T.I.'S SUPPLEMENTARY HANDOUTS RELATING TO THE 99/4A AND CC40

Andy Frueh wrote T.I.'s consumer relations department recently and asked them to send him all available free information about the 99/4A. He received a whole bunch of stuff, much of which I did not know existed. Some of the following is interesting from an historical viewpoint. Material includes press release product descriptions, user guide addenda, and some useful programs and technical information. Everything is hardcopy. THE LIMA USER GROUP WILL XEROX THIS STUFF FOR ANY MEMBER OR OTHER USER GROUP for $0.04 per page plus postage. A short description of these items is given below, with the number in parenthesis indicating number of pages. Quoted material is taken directly as a quote from the described hardcopy. All programs and technical information bears this notice:

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--User group list dated 01/06/88. (11)

--"Home Computer Third Party Suppliers" dated May 20, 1988 (1)

--User group list distributed July 1990 (14)

--"TI99/4A Home Computer Program Descriptions" on letterhead stationary. Undated, but includes MBX games. Short descriptions of all modules disks available. (10)

--Addendum, TV radiation warning. Refers to pre 1970 color TV's, is dated 1982 (1)

--Addendum Reading Flight Owner's Manual, dated 1982 (1)

--Addendum for Microsoft Multiplan, Square Root (SQRT) function implemented on the TI99/4A; dated 1984 (1)

--Microsoft Multiplan Backup Disk instructions (1)

--Addendum, Display Type Records; undated (1)

--Addendum to mini memory manual; page 12 correction, Re-Initialize; addendum to OLD command (1)

--Copying a master disk when using one disk drive with disk manager 2 (1)

--Computer Music Box, keypresses for Advanced Composer (1)

--Addendum to Disk Memory Drive manual (8)

--Audio Cassette Recorder Information, lists those that work with 99/4A (1)

--Addendum "Information regarding the User's Reference Guide" (6)

--"Texas Instruments announces the Computer Advantage Club" advertisement (2)

--"Texas Instruments TI99/4 Home Computer Products" advertisement dated 1979, not 4A, (2)

--"TI99/4A Home Computer Console" advertisement (3)

--GPLLINK for extended basic, assembly listing (3)

--Editor/Assembler, product description, manual correction pp342-344 and other pages, Assembler Directives replacement page 213-214 (7)

--Tombstone City, how to load disk from EA, TI BASIC, and Extended Basic (2)

--"BASIC/EXTENDED BASIC Character Offset Demonstration", demonstrates HEX 60 character offset, BASIC and assembly code listings dated 1984 (2)

--"Extended Basic Programming Language" description of features not found in TI BASIC (3)

--Mini Memory Module, description (1)

--"Features of the 80 Colum Printer", TI's impact printer (1)

--Microsoft Multiplan product description (1)

--"TI99/4A Home Computer Third Party Suppliers Revised April 26, 1990" (1)

--TI-Writer, product description

--"Parallel interface to printer" pin functions for 16 pin PIO and 36 pin printer connector (1)

--New UCSD P-system and Pascal software product description (1)

--TI LOGO II, description of enhancements since original TI LOGO (2)

--Pin assignments for the console; peripheral port, gram port, handhold controls port, cassette port, USA power receptacle 4 pin, video jack (7)

--"This routine allows "simultaneous" input from keyboards 1 and 2 or joysticks 1 and 2. All four squares may be used at the same time.", assembly code. This may relate to the four boxes in the handset test of the DIAGNOSTICS module. (4)

--The Animal Program (LOGO II). Reference is made to specific pages in the LOGO II manual. (2)

--"Display-AT/Accept-At program in TI BASIC (1)

--"Sample Program for Coincidence, Extended Basic required" (1)

--"DERIVED FUNCTIONS, The following functions, which are not implemented in TI BASIC can be utilized with the formulae" example: COT(X)= 1/TAN(X) (1)

--CASSETTE FILES, tutorial with sample baseball card collection program in TI BASIC, dated 1977 (8)

--RELATIVE FILES, tutorial with sample TI BASIC program using disk drives, dated 1983 (4)

--DISK FILES, tutorial with sample checkbook program (3)

--KSCAN FOR MINI MEMORY, assembly code (1)

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--"This program has been developed to format and round a number entered from the keyboard. The number will be in dollar format with zeros displayed and will round any amount over .5 cent to a full cent." (1)

--"General Description of the PREP subprogram" found in PRK and Statistics command modules. This discusses in great detail the in's and out's of PRK BASIC. (22)

We also have the TEXAS INSTRUMENTS 99/4A HOME COMPUTER RETAIL TRAINING GUIDE. This is a package of material provided by TI to retailers to help them set up and sell the home computer. 50 pages.

For the CC40 we have a package of software descriptions of CC40 solid state software cartridges. Programs and subprograms on each of these modules are described in a fair amount of detail (9 pages for the whole thing):

--ADVANCED ELECTRICAL ENGINEERING LIBRARY
--MATHEMATICS 1
--STATISTICS LIBRARY
--FINANCE LIBRARY
--MEMO PROCESSOR WITH DATA COMMUNICATIONS
--CC40 PASCAL
--GAMES I
--GAMES II

DONE

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Extended BASIC Trix - Conversions
By: Andy Frueh, Lima OH

There are a lot of good programs in computer magazines. The thing is, most of these are written for computers other than the TI-99/4A. How, then, can we translate, or convert, from one computers "dialect" of BASIC to our own TI BASIC? Before you begin reading, let me say that if you are planning on translating a program from one form of BASIC to ours, you almost have to have a working knowledge of every command, statement, and function that we use. It also helps if you know something about the machine you are translating from. Naturally, you may need some help with the latter part.

First of all, get TI Extended BASIC. Most computers use multi-statement lines. Extended BASIC makes converting between dialects much more easily. Remember that most dialects use single colons to separate statements. For example: 100 A=0:B=0:C=0:PRINT A,B,C:GOTO 110 would be in TI Extended BASIC, 100 A=0::B=0::C=0::PRINT A,B,C::GOTO 110

Next, if you're trying to convert a graphics and sound program, good luck. Each machine has it's own routines for that. The only thing you can do is run the program on the machine, and try to rewrite a routine that will do about the same thing on the TI.

Also, some dialects of BASIC don't require spaces. TI dialects always require spaces. Also, some versions don't require that you specify a variable after a NEXT statement. For example, FOR A=1 TO 100:NEXT would be translated as FOR A=1 TO 100::NEXT A in TI Extended BASIC. Also, some computers let NEXT statements be combined, as in NEXT A,B. We have to split them up.

The easiest change is screen clearing. Usually, computer use CLS, but sometimes, there's a more complicated sequence of commands. But you can usually figure out what it does. Replace it with the familiar CALL CLEAR.

The trickiest parts to convert are the IF-THEN statements. With Extended BASIC, you have a lot more power to use with these statements, which is why I recommend converting only to this, rather than TI BASIC. Anyway, below are some examples of these statements, and how to convert them.

```
10 IF X=20 THEN X=1
20 PRINT X

10 IF X<>20 THEN 30
20 X=1
30 PRINT X

10 IF A=B THEN C=1:GOTO 100
20 A=A+1

10 IF A<>B THEN 40
20 C=1
30 GOTO 100
40 A=A+1

10 IF N<10 THEN N=N+1:GOTO 100
20 GOTO 600

10 IF N>=10 THEN 600
20 N=N+1
```

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THE ULTIMATE "TI LOGO" TUTORIAL: AN ELEMENTARY SCHOOL USER GROUP FUND RAISING PROJECT

reviewed by Charles Good
Lima Ohio User Group

Here is an opportunity to help yourself and the TI community in the following ways: 1) Explore some TI software about which you are probably unfamiliar; 2) Encourage new users of the 99/4A and thus broaden the user base of our hobby; and 3) Give a charitable donation that is directly related to the use of the 99/4A. You can't lose!

Let me introduce you to the Oakland Computer Club of Oakland Maine, perhaps the most active TI user group in the United States. The 50 members are all aged 5-14 and students at Oakland's Atwood-Tapley Elementary School. The members and their six volunteer advisors meet one afternoon or evening a week throughout the entire year. How many other user groups can claim year round weekly scheduled activities? The school library has three permanent 99/4A work stations with printers. There are also 14 mobile computer carts with 99/4A systems, mostly cassette, that are wheeled from classrooms to the library for Computer Club meetings. Student members learn BASIC and LOGO programming, and study using educational software. The Oakland Computer Club even publishes a newsletter once or twice a year, which they send to other user gruups on an exchange basis. Unlike many other TI user group newsletters, the Oakland CC newsletter contains entirely original material including teaching materials and samples of the member's creative efforts.

The driving force behind this unique organization is Eunice Spooner, a former elementary school teacher until she was disabled in an auto accident. The other adult volunteers are parents who help set up equipment and provide the Oakland CC with other sorts of non technical assistance. Eunice pretty much organizes the whole thing and is the club's volunteer teacher. She has Masters degrees in Biology and in Education. One of her graduate school projects involved the then newly developed LOGO programming language, and she is probably one of the most knowledgeable people anywhere in TI LOGO II. To acquaint the TI community with the use and operation of TI LOGO and to raise some money for the Oakland CC, Eunice has put together an absolutely supurb LOGO tutorial on videotape with a supplementary disk of software.

LOGO is mainly used to create really neat screen graphics. A little triangle shaped object called the "Turtle" is the pen. Logo commands such as Left Turn (so many degrees), Right Turn (so many degrees), Foreword or Backward (so many "turtle steps") move the turtle around the screen. As the turtle moves foreword it draws a line with the aid of "Pen Up" and "Pen Down" commands. You can create really intricate designs by using multiple repetitions of simple designs. In addition to "turtle graphics", TI LOGO II supports text, sprites, and music. As in FORTH, you can develop complex one word LOGO commands which incorporate many simpler words in a specific combination. In LOGO the commands are not called words, they are called "procedures". As an educational tool, LOGO can be used to teach the concept of coordinate systems, the mathematics of geometrical shapes, and computer programming. My 12 year old son used a mechanical LOGO turtle at his school. His turtle rolled across the floor on top of a sheet of paper. With the proper commands, Ian tried to get this mechanical turtle to draw specific shapes on the paper.

Eunice's video tape shows the computer screen while you hear Eunice's voice explaining everything that happens. Her teaching talent really shows. I have seen a number of narrated TI99/4A instructional and demonstration videotapes, and in most of them you can't tell from the narration which keypresses produce the screen activity you are seeing on the videotape. Eunice is very careful to avoid this problem. She always says something like, "When I press Function and 1 simultaneously..." and you then see what happens. The video tape is almost 5 hours long, divided into specific lessons each lasting no more than an hour. Your attention span is not taxed because each lesson has a logical break such as saving what you have done so far to disk. One of the problems with my own Funnelweb videotape tutorial is that I talked on and on continuously for almost 2 hours. It was a good tutorial, but it bored many of my viewers after awhile.

The LOGO tutorial starts out with the assumption that the viewer knows nothing at all about TI LOGO, which is true for most of us. This doesn't mean that Eunice talks "to children" on the videotape. This tutorial is for a mature audience. Eunice does sometimes say, "When I try to explain this concept to the children I say...." If you already know some LOGO, you can rapidly move on to some of the advanced lessons. Virtually all features of TI LOGO except music programming are covered in a very logical step by step order. The accompanying disk contains all the procedures and tiles created in the videotape, plus some extra stunning graphic displays. At the end of the videotape you can see Eunice herself showing off some of the equipment used by the club, including bulletin board displays and the mobile computer work stations.

LOGO is fun for kids of all ages, and it is really educational for school children. If you have kids (or consider yourself a kid) you should introduce them to TI LOGO II. This means you yourself should know something about LOGO, and the best way to learn is from Eunice's tutorial.

The VHS video tape and accompanying disk cost $10, including media, postage, and a small amount left over for the coffers of the Oakland CC. Additional donations of money, software, and computer equipment are welcomed by the club. The LOGO tutorial and the Oakland Computer Club are definitely worthy of your attention.

Oakland Computer Club
c/o Eunice Spooner
Box 3720
Webb Road
Waterville ME 04901

DONE

```
                                30 GOTO 100

10 IF A>B THEN 250              20 IF I>J THEN 250 ELSE 750
20 GOTO 700
```

There are different commands to get input from the operator. Normally, the INPUT command is used. Some machines use a PRINT then an INPUT followed by a variable such as INPUT N. Others use a prompt in quote marks after the INPUT statement. The variable is separated from the quotes with a semicolon. The TI uses a colon. Other methods of input include GETKEY or INKEY commands. These are similar to the TI's CALL KEY. Usually, a GETKEY, etc. is followed by an IF-THEN statement. This usually says, "if this key is pressed, go to this line." On the TI, you can use the actual ASCII codes in the IF-THEN. For example,

```
10 INKEY A$:IF A$="" THEN 10    10 CALL KEY(0,K,S)
20 IF A$="Y" THEN 100           20 IF K=89 THEN 100
```

Although you don't run into them so much now, there are times when you'll have to translate code to generate random numbers. Below is a table showing how different machines get their random numbers.

Apple	X=RND(6)+1
Atari	X=INT(6*RND(1))+1
TRS-80 Color Computer	X=RND(6)
VIC-20	X=INT(6*RND(0))+1
TI	X=INT(6*RND)+1

Some computers use math symbols to control variables and strings. When a computer uses something like A$=B$+C$+D$ translate it to A$=B$&C$&D$ for the TI. Also, sometimes you'll run into LEFT$, RIGHT$, MID$, (L$), (R$), and (M$). An example of the syntax is LEFT$(old string name,positions in). For example, LEFT$(A$,4) takes the leftmost 4 characters of the string named A$. Our equivalent is SEG$(A$,1,5) where A$ is the name, 1 is the starting position (or character) and 5 is how many over to go. This whole expression is usually made equal to some other variable. Another function is the LEN(string) function. It gives the length of the string. If it is a null string, the TI returns a value of 0. Some other machines may give a null string a value of 1.

You may notice the use of symbols replacing normal syntax. For example, ? is often used in BASIC (mainly Applesoft) as a replacement for the PRINT command. The idea being that it is used so much, is should be made easy to input. You may also see a ' used in replace of a REMark. In Extended BASIC, we can use the ! or REM.

The next statement you may see is a PRINT , PRINTAT, or PRINT AT. In Extended BASIC, you can use the DISPLAY AT command to achieve the same thing. Note, however, that most computers have more columns across than we do. But if you want to convert to TI BASIC, you have to use tab to move over columns and colons to move text up the screen.

Another command that you might discover is the FIX(n) function. It gives the integer value of n. It is identical to our own INT(n) function. Most computer have a DEF function. We do, so if you can't find an equivalent function in TI BASIC, you can DEF it into existence. Many programers fail to use this powerhouse command. True, it isn't often needed, but the power to change all kinds of functions and operations is spectacular.

File commands aren't as hard to translate. Almost all machines use similar OPEN, CLOSE, PRINT, and INPUT syntaxes. As long as you understand what the "host" program is doing with the file, you can translate it simply if you have some working knowledge of TI file commands. All in all, the only real difference is that we can open many files, but some dialects are stuck to one at a time, thus the don't specify an OPEN number like we do.

Of course, there are more commands and statements that you may run into. Stay clear of PEEKs and POKEs if possible. Unless you are an assembly programmer for both types of computers, or have a detailed memory map of each, you won't be able to translate these. They are usually similar to what our CALL LOAD does.

Well, that's enough conversion for now. This has been educational for me, because it is a lot simpler to use programs based on other computers. I hope that many others will take up the task of converting programs off of other systems so that we 99'ers can use them.

DONE

PRICES OF CC40 GOODIES HAVE COME WAY DOWN!

One of the main advantages of the CC40, its peripherals and its software is that these goodies are CHEAP! Information below is quoted from a price list received in February 1989 of CC40 hardware and software available for sale directly from T.I. After each 1989 price the current (as of September 1990) direct from T.I. price is noted. NA means the item is no longer available from T.I.

```
Hex Bus Printer 80 ......$700 ($70)
HexBus RS232.............$150 (NA)
HexBus modem.............$150 (NA)
16K expansion RAM........$150 ($40)
8K constant RAM..........$100 ($30)
A9201 AC adapter.........$19 ($19)
Memo Processor cartridge $70 ($20)
Finance cartridge.........$60 ($20)
Electrical Engineering....$60 ($20)
Statistics................$60 ($20)
Mathematics...............$60 ($20)
Games 1...................$40 ($20)
```

You can purchase directly from TI with a credit card or COD by calling 806-747-1882. **DONE**

T.I.'s HexBus "PRINTER 80" for use with the CC40
described by Charles Good
Lima Ohio User Group

Hex Bus peripherals connect to the CC40 in a manner similar to the way disk drives and printers connect to the Commodore 64. Most HexBus peripherals have two HexBus 8 pin ports. The CC40 has one HexBus port. You connect a HexBus port of the first peripheral to the CC40's HexBus port with a special cable. You then connect the second peripheral to the other HexBus port of the first peripheral, etc. Peripherals chained together in this way can be accessed individually by the CC40, and it usually doesn't make any difference in what order the peripherals are chained together. You don't need any interface cards or other special hardware to use these small inexpensive peripherals with a CC40. Just cable 'em together! HexBus peripherals once made by T.I. include the printer plotter (using adding machine roll paper prints 16 or 32 columns of text and plots in 4 colors), RS232/PIO interface, 300 baud modem, WAFERTAPE DIGITAL TAPE DRIVE, and 80 column printer. Of these, the 80 column "PRINTER 80" is the only one still available new directly from T.I. The WAFERTAPE DRIVE is very rare and was never officially released. The others are not too difficult to find used.

The PRINTER 80, T.I. model HX1010, costs $70 + shipping and tax, and comes with 3 ribbon cartridges and an AC adaptor. It comes in gray plastic and measures 12.5 x 6.4 x 1.9 inches. It can be powered with four size D batteries or the accompanying AC adapter. You shouldn't use a generic selectable voltage AC adapter like those you can buy in many stores. These are only rated at 300 milli amps and the PRINTER 80 needs more power. In addiion to the AC jack and two HexBus ports on the back of the printer, there are four controls on top: on/off, power paper advance, power paper reverse, and paper release.

The PRINTER 80 is a full 80 column printer that uses 8.5 inch wide paper and has a maximum printing width of 7.5 inches. It is a very quiet thermal printer. The cheapest way to use it is with rolls of FAX paper. A 96 foot long 8.5 inch wide roll of FAX paper costs $3 at a nearby discount department store. You can also use the "one pass only" 20000 character thermal cartridges that come with the printer to print on regular 8.5x11 typing paper. Replacement cartridges cost $3 from T.I. Printing is slow compared to most computer printers, only 20 characters per second. But that is alot faster than a good touch typist. There is only one font, elete. There is no provision for emphasized, condensed, expanded, NLQ, etc. fonts. What you see here was printed on a PRINTER 80. ASCII 32-126, including lower case letters with true descenders can be printed. You can send low numbered ASCII codes that set the PRINTER 80 for single or double space, perform single foreward and reverse line feeds as well as 1/2 foreward and reverse line feeds (for subscript and superscript) without carriage returns, and carriage returns without line feeds. There are no dot addressable graphics. For such graphics you need the HexBus printer plotter.

There is nothing fancy about the PRINTER 80, but it has some very attractive features. It is SMALL, CHEAP, and since it is battery powered it is TOTALLY PORTABLE. For text printing it has all the required features. The combination of a CC40 and a PRINTER 80 gives you a complete, inexpensive, totally portable word processing/printing system that you can carry around in a small briefcase.

DONE

Bits, Bytes & Pixels

USING TI-WRITER TO "L(oad) F(ile) RS232"

by Charles Good
Lima Ohio User Group

You can hook two different kinds of computers together with a cable linking the RS232 ports of both computers. The TI serial printer cable available from L.L. Conner and other sources will do the trick. You can then LOAD TEXT FILES DIRECTLY INTO TI-WRITER (or the Funnelweb editor) from a word processor program running on the other computer. You don't need a modem or a "terminal" program, and the other computer doesn't have be compatible with the TI. Here's how.

After cableing the two computer's RS232s together boot TI-Writer, type LF (load file) and (enter), then type RS232.CR for the file name and press (enter). The TI's screen will appear to lock up as the TI waits to receive the file from the RS232 port. It may be necessary to specify a baud rate in the RS232.CR file name if the default 300 baud is not satisfactory. However, TI Writer (and Funnelweb) will not accept baud rates greater than 600. With the other computer save (or send) a text file already in memory, specifying RS232 as the save file name. Text will then flow into TI Writer. When text transfer is complete, press FCTN/4 on the TI and the received text file will be displayed.

Since I don't have the TI99/4A HexBus interface, this is how I transfer text from my CC40 to my TI for processing with Funnelweb and printing with my Star printer.

DONE

Warning: Wizard's End

By: Andy Frueh

The adventure module has never been noted for its greatness. Games are often limited and not extremely entertaining, although most ARE challening. With Wizard's End, and new door opens.

Wiz End is a multi-player Dungeons and Dragons adventure. You use spells, and the whole works. It is a good effort by David Bishop.

However (doesn't seem that that word gets mentioned a lot in my reviews? Oh well). Anyway...

However, Wiz End requires that you know how to play Advanced D&D, and you should probably have the books for this game when going through Wiz End. The author can't really provide too much information without violating copyright laws, so it is understandable. Since I don't have advanced D&D, I'll have to write Asgard for help with some parts of the game. They may refer me to David Bishop, I don't know.

Just wanted to be sure potential buyers of this great adventure don't buy something and find they can't play it!

DONE

WORD PROCESSING WITH THE CC40 USING "MEMO PROCESSOR"

by Charles Good
Lima Ohio User Group

For me, the most common use of my CC40 is as a laptop word processor. Once created, text in the battery backed RAM of my CC40 can be printed using the HexBus PRINTER 80 or dumped directly into TI Writer on my 99/4A using the HexBus RS232. The software that lets me do all this is the MEMO PROCESSOr solid state software cartridge for the CC40.

MEMO PROCESSOr is the official TI word processor/terminal emulator for the CC40. It does a good job dealing with the main limitation of the CC40 for text work, the one line 31 character display. Yes, you can scroll left/right across an 80 column line with the CC40, but you still see only 31 characters at a time. MEMO PROCESSOR comes with a handy keyboard overlay and a very well written user's guide. All you do is press the CC40 "ON" button, press FCTN/0 to produce RUN "MP" on the CC40's display, press ENTER, and you are now in word processing. Just begin typing! When you exit MEMO PROCESSOR you are returned to BASIC. BEWARE! Performing ANY calculations or BASIC programming will disrupt the text you have stored in the CC40's battery backed RAM. It is a good idea to save text to disk or wafertape, or dump to TI-Writer in the 99/4A as soon as possible.

MEMO PROCESSOR resembles the TI Writer editor in its capabilities. There is no "formatter" and formatting dot commands are not recognized as anything special by MEMO PROCESSOR or any of the HexBus printers. All the standard word processing functions are available including adjustable tabs, merging documents, find/replace string, and full paragraph reformat when inserting and deleting. With a standard 6K RAM CC40 you can store about one 66 line 80 column single spaced page of text before you run out of memory with MEMO PROCESSOR. If you have internally upgraded your CC40 to 18K (L.L. Conner Enterprise will do this for $25), you can store about 5 single spaced pages of text.

You can set the right margin for anything up to 80 columns. The left margin is created at the time text is printed. The CC40 display indicates the end of a print line (based on the right margin you have selected) and the end of paragraphs. When initially creating text it is best to set the right margin at column 28. This insures that no left/right scrolling is needed to read the text. Later the text can be reformatted to any margins you desire. Reformatting is easily done with just three keypress. The entire document is reformatted all at once. The kind of paragraph by paragraph reformatting required in TI Writer's editor is neither necessary nor possible with MEMO PROCESSOR. Leading spaces (such as at the beginning of a paragraph) are preserved in reformatting. What you cannot achieve with reformatting, or any other way with MEMO PROCESSOR, is right justification. The lack of right justification is in my opinion the greatest deficiency in the word processing performance of MEMO PROCESSOR.

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Saving text to a QUICKDISK or WAFERTAPE drive (I have such a device) is easy. One keypress followed by entering the save file name does the trick. MEMO PROCESSOR warns you if your file name already exits on the disk or wafertape so you won't accidently overwrite something important. This is a nice touch.

When viewing text you can move to the beginning or end of the text or GO TO any location within the text (any specified row and column) with just one or two keypresses. You can also automatically scan the text in order to read the whole document. The computer automatically moves successive blocks of text onto the screen in such a text scan, and the length of time each block of text is displayed can be adjusted by the reader.

When it is time to print text to a HexBus printer (or the HexBus RS232), you can alter any of these options under software control: page length, number of print lines per page, and left margin. You can also specify the printer device number, compressed or normal size print (Compressed is an option with the HexBus printer plotter; the HexBus Printer 80 supports only normal sized text.), spacing (number of line feeds after each carriage return) and pause between pages (if you are using single sheets of paper). If you are printing to a regular (non HexBus) serial or parallel printer via the HexBus RS232/PIO interface peripheral, you can control strobe level, baud rate, parity, nulls after carriage return, and number of data and stop bits.

The MEMO PROCESSOR is also a terminal emulator designed to send and receive data from other computers via the HexBus RS232 and the HexBus modem. You can use any modem but you must have a HexBus RS232 to do this. When used in this way, MEMO PROCESSOR controls the following: baud rate (110 or 300), data bits, transmit parity, stop bits, check parity on receive, and duplex. The major limitation to MEMO PROCESSOR as a terminal emulator is the top speed of 300 baud for sending text. Most BBS's and information networks can work at much higher speeds, and some BBS's don't accept speeds as low as 300 baud. However, you must remember that MEMO PROCESSOR was designed to work with the HexBus modem which has a maximum baud rate of 300, and that both products were made in 1983/84 when 300 baud was much more common than the higher baud rates used today.

When receiving text from a remote source or when text you are sending is duplexed back onto the CC40's display, the text scrolls very rapidly across the display at a rate that makes it difficult to read. When receiving text, you really can't read the text until later when you scan the contents of the CC40's text buffer at your own pace.

Rather than PRINT DOC to my RS232 from the word processing part of MEMO PROCESSOR, I use SEND DOC from the terminal emulator part of MEMO PROCESSO. I do this to move text directly to my HexBus RS232 and then across a cable to my 99/4A's RS232 where the text loads directly into TI Writer The reason I choose SEND DOC instead of PRINT DOC is that the defaults of my TI RS232 exactly match the defaults of SEND DOC. I don't have to change any of the defaults on either computer to port text this way directly into TI Writer. As a matter of fact, when I get through typing this paragraph as I sit on my front porch with my CC40 in my lap pecking away on the keyboard with one finger of each hand, I'm going to go inside and dump this article to my TI for processing with Funnelweb. BYE!

DONE

MORE NEVER RELEASED SOFTWARE MODULES FOR THE 99/4A

by Charles Good
Lima Ohio User Group

Milton Bradley made two game modules for the 99/4A that I have never seen mentioned in the TI literature. One is their dealer's game demo module, and the other is a previously unknown game.

When you plug in the MILTON BRADLEY GAME VISION module and press any key from the TI's title screen, you are presented with the following menu:

PRESS
1 for TI BASIC
2 for Milton Bradley Games
3 for Connect Four
4 for Hangman
5 for Yahtzee
6 for Zero-Zap

Thats right folks, this single module contains all four games. If you press 2, you get a continuously running demo of all four games, one game at a time. The demo starts out with MILTON BRADLEY GAME VISION PRESENTS, and the major features of the first game (Connect Four) are presented in a text display. Then there is a short demo of the actual game. This demo runs for a couple of minutes and then the major features of the next game (Hangman) are displayed as text, etc. etc. Once all four games are demonstrated, the whole thing starts over. By pressing any key (none of the keys on my console are labeled as the "any" key), you are given the opportunity to actually play the game currently being demonstrated. I have no idea when this module was created. There are no dates or copyright statements in any of the game demos. It's easy to see why Milton Bradley never actually sold this module. Such sales would undercut the market for Milton Bradley games sold as individual modules.

The other "never released" module is Milton Bradley's CARD SHARP. There is no date or copyright statement on the title screen. You get your choice of two gambling card games with CARD SHARP, Stud Poker or Blackjack. Selecting Stud Poker brings up these instructions:

Enter Bet----ENTER
End Game-----@
Show Card----S

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Hide Card----H
Fold---------F
Secret Show--X

You are then prompted to enter the amount of money you wish all players to have at the start of the game.

As you may know, Stud Poker starts with the first card of each player face down and the rest face up. Cards are dealt one at a time, and each player must bet in order to stay in the game and receive the next card. SHOW allows a player to peek at his hidden card. SECRET SHOW reveals ten cards NOT yet dealt out. The game always includes four hands. If there are fewer than four human players, the computer plays the remaining hands, to the end. If, for example, there is only one human player and he folds, the computer continues to automatically play the other three hands until there is a winner. Sometimes the computer will FOLD some of the hands under its control, just as real players sometimes FOLD.

Selecting BLACKJACK brings up this submenu:
Enter Bet----ENTER
End Game-----E
Hit----------H
Stand--------S
Double Down--D

One to four can play at once. The computer plays the dealer.

Except for the sound of cards being shuffled, there are no sounds or music in CARD SHARK. There is no fast action, there never is in card games. The only graphics are the display of the cards. Quite honestly, there are several BASIC and XBASIC public domain programs that play Blackjack and Stud Poker every bit as well as CARD SHARK. This is probably why MILTON BRADLEY never tried to market CARD SHARK.

My thanks to Mike Wright for calling my attention to this software.

DONE

THE CHANGING MARKET FOR 80 COLUMN CARDS
by Charles Good

I firmly believe that unless you have vision problems, an 80 column device is one of the most important peripherals one can add to a 99/4A system after a second disk drive. 80 columns makes our machines truely modern, and comparable to the 80 column word processors many of us use at work. For those of us want to stick with our familiar and reliable 99/4A systems instead of purchasing a Geneve to get 80 columns, the available 80 column options have changed considerably in recent months.

As reported in Barry Traver's September 1990 VULCAN'S COMPUTER MONTHLY column DIJIT systems will no longer be making any AVPC cards. I talked to Tom Spillane of DIJIT about this. He said that the TI market just isn't big enough to continue production of his products. A quick survey of TI dealers indicates that none of them have any AVPC cards left to sell.

The NEW ASGARD version of the Mechatronic 80 column peripheral (it isn't a PE box card, so I call it a peripheral) is still not in production. In a phone call to Chris Bobbitt of Asgard, a member of the Lima UG was told that production has been delayed until at least November, and that the price will probably increase at that time for those who do not have prepaid orders. Chris is asking $220 in advance for these prepaid preproduction orders.

The OLD Mechatronic peripheral is still available from some dealers. Both the original Mechatronic distributer T.A.P.E. (phone 714-989-9906) and L.L. Conner Enterprise (phone 317-742-8146) have a few of these devices in stock according to a recent (August) telephone survey.

THE BIG NEWS ABOUT 80 COLUMN DEVICES is that Gary Bowser (doing business as O.P.A.) will soon be making a RAMBO-like small 80 colluan board based on the 9938 (not the 9938 or 9918) video chip for installation directly in the console. In a recent (late August) phone conversation with Gary, I was told that installation requires the soldering of only one wire. This device has, according to Gary, been tested successfully with all the software that works with the AVPC including 80 column Funnelweb with no problems. The very same device will also bring 80 column capability to the COLECO ADAM computer, so Gary feels this double market will make the product financially successful. THE PRICE WILL BE ONLY $150 US. Gary says production versions will probably be available in September and that it is very likely that he will beat Asgard in the date of production startup. O.P.A.'s phone is 416-960-0925 9AM-11PM most days including weekends.

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ANOTHER VIDEO TAPE OF T.I. SOFTWARE YOU WILL NOT OTHERWISE BE ABLE TO SEE

Lima User Group has another video tape of 99/4A software that most people will never get a chance to run for themselves. This videotape includes the two Milton Bradley game modules (GAME VISION and CARD SHARP) described elsewhere in this newsletter. The video tape also includes three officilly released (still available for sale) game modules that REQUIRE the use of Milton Bradley's MBX system. Without the MBX, a hardware device that was never released, you can't run the modules. The "MBX system required" modules shown on our video tape include CHAMPIONSHIP BASEBALL, TERRY TURTLE'S ADVENTURE, and I'M HIDING. The baseball module in particular is really fantastic!

This video tape is available to any user group, or to any paid member of the Lima User Group, by sending a VHS tape and $1 postage, OR by sending $5 for media and postage. Run time is about 3.5 hours and includes the proceedings of the August 1990 meeting of the Lima UG. Our address is: P.O. Box 647, Venedocia OH 45894

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