



Newsletter

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TI-99/4A USERS GROUP EXECUTIVE 1984/85

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Editorial:

Welcome back to our quaint little newsletter. We start 1985 by dropping our Orwellian novels into our handy trash compactors thus bringing a end to the all knowing eye in our society or is it? Just the other day there was a car in front of my house with a orbiting scanner dish upon its roof, I wonder..... Well we pass a year that has left many of us in the blue but not to fear there are still some of us that believe we don't all have to have top of the line IBMs! By the way, I'm desperately in need of employment for the summer months, I do about anything that is legal and not degrading to myself so if you know of anyone who's hiring please let me know. Well back to business.

The Network:

This might tingle your pocket books. Terry Atkinson, Sysop of Dartmouth TIBBS, has informed me that Mynarc will probably be producing a version of the TI-99/8 computer. This computer was far superior to its brother 99/4 but all models were snatched up by TI workers but one did slip through. If you want to know more about the 99/8 please see later article on it contained within this newsletter. Also there is speculation that Mynarc will be producing a RAM disk.

Corcomp is plugging away. Latest news on the 99000 system that it's in for a overhaul as some TI cards don't work properly with the system. Their clone is still under wraps, may be eternity before its own light of day. They have also produced a RAM disk card for the TI, a 64K and 256K are available, who knows when they will get it out. Something that did get out was their diagnostics programs that check out your whole system. This program works fairly well.

Our famous database UMBBS is no more. The recent december's \$10000 datapac bill was overwhelming to the financiers of UMBBS that it has been decided to review the concept of UMBBS. Upon writing it has deemed too costly to the budget and the whole system has been dropped till further notice. Mark Evans, the former sysop of UMBBS, informed us of this sad event. I think Mark is a pioneer in this field and should be praised for what he has done. I wouldn't be surprised to see his name in a major computer magazine telling us he started his career with UMBBS. Most of my TI contacts are looking for a new alternative.

Once again my faithful friend Terry Atkinson keeps us informed on the technical aspects of the computer. His latest line to me is about how to change the character and screen colors of the EDIT1 program for the Editor/Assembler. Following

Subject: Changing Colors in the Editor/Assembler

Written by: Terry Atkinson with thanks to Tom Freeman, who inspired this article.

Some time ago, Tom Freeman provided me with a method whereby the color defaults on the EA EDIT1 program could be changed by using the TI disk fixer. Not being "handy" with using this disk fixer, I decided to attempt to accomplish the

same end by using a standard disk fixer. It worked!

Why change the color? Well, some of us are using green/orange monitors, or black & white TV's and white letters on a blue background do not show up that well. Others may just want a change.

The theory provided by Tom, is that every bit of memory space required by the editor program and data generated by the user. Hence, he used an area of the Program utilized by the TI to display their copywrite. In this space, he wrote a little assembly language sub-utility to produce the color change, and is, in essence, a VWTR to change VDF register 7.

Here's how to do it.

First, transfer the EDIT1 file over to a freshly initialized disk. Then boot up your favorite disk fixer. If you don't have one, DISKO, the TI In-house disk fixer is available from the W99/4UG public domain library for free (although use of that version will not coincide exactly with what I am about to put forth.)

Once the fixer is booted up, call in sector 21. This sector is headed by words: 0000 1700 2000 55AA. Ensure you got the right sector. Now locate the word at 0024. It should read 2843. Using the (A)lter command, change this, and the next consecutive 15 words to read:

```
2020 0800 001E 0200 8717 06C0 D800 8C00
06C0 D800 8C02 C020 201E C020 FFD8 045B
```

Write sector 22 back to the disk, and call in sector 24. This sector is headed by words: 0014 0420 2D82 1000. Again, check to ensure you have the proper sector loaded. Now locate the word at 00B8. It should read C020. Change this and the next word to read: 06A0 2020. Write sector 24 back to the disk and that's it. You're done.

Check out your work by loading the EA using the EDIT utility. You should now have a cyan screen with black lettering. If you don't like that color combination, there is nothing stopping you from selecting your own colors. Merely load sector 22 back in and change the word at 002C which now reads 8717 to read 87xx, where xx is equal to your own preferred color combination. (See the EA manual, page 330.) Write the sector back to the disk and check it out.

Now, one for you. How about some different colors in the TI Writer? Can it be done? If so, let me know how. I don't particularly like all the color combinations in that utility either. If you know and don't know Terry's address, please send to the Editor and I will forward them to him.

Some interesting programs have hit the market lately, here's some information about them:

Tiny Logo - Specialist In; 1815 Ford Road; Mtna, MN 55343; (612)544-6219 - \$19.95 - All you need is the basic machine and a cassette tape recorder to use this all new LOGO language. Includes 32 page detailed booklet with sample programs. Allows

you the ability to create colorful graphics with the turtle and learn programming.

TI Runner - EB Software; 12912 Villa Rose Dr.; Santa Ana, CA 92705 - \$24.95 - You are a highly-trained commando who has been captured and imprisoned deep in the catacombs of the evil Kyron Empire. Will you be able to mount a successful escape and still get away with the Kyron booty? There are 50 completely different levels awaiting you on your quest for fun and adventure. However, there are guards that are hot on your trail. You will be running, jumping, drilling passages, and outfoxing life-threatening guards as you escape from the Kyron dungeon. 100% pure assembly language. Requires Editor/Assembler or Mini-Memory, Memory Expansion and Disk System.

Disk Manager III - Quality 99 Software; 1884 Columbia Rd.; Box 500; Washington, D.C. 20009 - \$39.95 - The resident disk manager program includes such functions as disk catalog to screen or printer, disk initialization (double-density included), diskname and filename changing, file protection change and file delete. The program operates without disturbing the program in memory. These functions may also be used in Extended Basic programs. Requires Extended Basic, Memory Expansion and Disk System.

ISAM - Software Tools; Box 191; Newton, MA 02168 - \$25.00 - Looking for a way to use ISAM (indexed sequential-access method) is a file-accessing technique that is faster than sequential-access method which requires more file space. ISAM allows the user to read relative record files by the use of an alphanumeric key, which simplifies record searches and response time. A Massachusetts company is offering ISAM to users for \$25. The user must also submit a disk for the program. Included are an ISAM initializer and help utility. The program requires Extended Basic and a disk system. The unique aspect of this operation is that users need not pay unless they are satisfied with the product.

Graphics Construction Kit - Infsoft; Box 1484; Groton, CT 06340 - \$29.95 - The "Graphics Construction Kit" is an integrated graphics package. It is also a program generator. It allows you to create your own customized characters, and using these characters, create any type of graphics display. The final product is a stand-alone program, complete with line numbers, character definition statements, and screen formatting statements that will reproduce the screen (or screens) you've created using the "Graphics Construction Kit." Yes, this is a program that writes another program! It's actually two separate programs in one. First, there's a full-featured Character Generator that allows you to create, save and edit customized characters for later use in the Screen Generator. Features of the Character Generator are:

- *ROTATE characters 90 degrees
- *FLIP characters upside down or sideways
- *MOVE characters a specified number of pixel locations
- *see characters with any combination of FOREGROUND and BACKGROUND COLORS
- *create characters in INVERSE VIDEO
- *SAVE characters to disk
- *LOAD characters from disk for editing at any time

The Screen Generator displays the characters you've created with it and allows you to put them anywhere on the screen using your joystick. You simply position a cursor on the desired character, select it, then move the cursor to the desired screen position and place it there. This is a fast, efficient and organized way to build an entire graphics display. You can even mix text with graphics using the keyboard. Screens can then be saved to disk for later editing. When you are satisfied with what you see, the "Graphics Construction Kit" will create a program on your disk that will reproduce the screen display you've created.

Here are some frequently used CALL PEEKs and CALL LOADs, thanks S.T.I.C.C.

- CALL LOAD(-31804,0,36) Is the same as "BYE".
- CALL LOAD(-31962,255) Reboots to "LOAD" program.
- CALL PEEK(-28672,A) If A=96 then speech synthesizer is attached.
- CALL PEEK(-31808,A,B) Provides random integers in A and B between 0 and 254.
- CALL PEEK(-31878,A) A = highest numbered sprite.
- CALL PEEK(-31952,A) If A=55 then memory expansion off else memory expansion on.

S.T.I.C.C. BBS is up and running in Saskatoon, Sask. Ken Read is the sysop of this modified version of TIBBS. The number is 384-2844 and it runs 24 hours a day and seven days a week. Good luck to you Ken!

Winnipeg may soon have one up to. One of our members, Charles Carlson, is planning to put one up in the near future. It will feature multiple boards, password system, multi-level system, and a upload and download section. We'll just wait and see.

Computer Shopper's TI guru, Randy Holcomb has just released reprints of his top-flight articles on the "innards" of the TI Home Computer in a book entitled "Innermost Secrets of the TI 99/4A."

To get your copy of this much talked about book, send \$5.95 to:

Innermost Secrets

Computer Shopper
P.O. BOX F
Titusville, FL 37261

Close sources has informed me on the availability of a program to write adventures for the Adventure Module. If you want more information, write to:

Markus Weiland
Friedrichstrasa 49
Ø-53ØØ Bonn 1
West Germany

A new software company, M and T Utilityware of Muskegon, Michigan, has just released a disk-reading utility called DISK MAPPER. Also in the works are DISK MANIPULATOR, DISASSEMBLER, and TE-128K. For more information, write to:

M and T Utilityware
35Ø7 Murl Avenue
Muskegon, MI 49442

Foundation Computing is introducing a "clamshell computer" for the TI-99/4A.

Spokesman Bill Hunter says the company is introducing a new card for the PEB that includes 64K of RAM, a built-in Western Digital disk controller and a proprietary operation system.

It is priced at about \$35Ø.

The card's CPU is a Zilog Z8ØA operating at four megahertz. The disk controller operates with double-density drives, and the card includes two RS232 ports. Hunter describes the card as the "classic CP/M compatible" device. The card is designed to use CP/M software in the Kaypro and Cromemco formats.

Hunter describes the card as "a full, stand-alone computer." It can be operated in conjunction with Foundation's soon-to-be-released 8Ø-column card or in Pournelle's words "Real soon now."

Hunter says the 8Ø-column card is being retrofitted to function as a 96ØØ baud terminal. The main purpose of the card, he notes, is to provide an 8Ø-column display for the Z8ØA card. Originally, the 8Ø-column card was going to be sold with an 8Ø-column version of Intelepro's Companion word processor. However, that plan has been dropped.

Orders for the Z8ØA card are being taken and filled within three to six weeks. The 8Ø-column card is expected to be released in January. Orders will not be taken for it until it is ready to be shipped. It is priced at about \$25Ø.

For more information, please write to:

Foundation Computing
74 Clare Way
Tiburon, CA. 9492Ø

Well I have requests for the need for a public domain terminal emulator program for the Texas Instruments Home Computer because some people are getting board with the TE II. Recently I have received as such one of those programs. It is called the TE III. Originally it was programmed by TI as a really dumb terminal program and has been enhanced along the way. The last version is 4.0 and enhanced by myself. I have cleaned up some formatting, taken out the ADM3 support and implemented a auto-dial function to work with Ron Gries Auto-Answer, Auto-Dial device that I have built though it is not working bug free at the moment but the rest of the program works fine. It features multiple baud, RS232 port, stop bit, and word length settings as well as feature to load your parameters from disk than to type them in. It also features a 80 column switch screen and XMODEM protocols. It comes in two versions: Noncompressed and compressed. It will be in the Public Domain Library shortly.

I want to hear from you Forth people out there for the idea of starting up a column in this newsletter. You can contribute your personally written Forth programs and I'll publish them. There's feasibility in contacting FIG in CA if there are enough responses.

Rumors are that there will be another TI magazine on the stands in January. I doubt if it'll be on the stands but a subscription may do it. More later.

I've been talking to a few friends in good U.S of A. and have been told that Borland International, the company that produces Turbo Pascal, may in fact produce a version of their Pascal for the 99/4A if there are enough responses for it. This software would run without the need of the p-Code card and I would assume it to run on a fully expanded computer. I have seen versions for other computers and I am really amazed at Turbo Pascal. Please write to them requesting them to produce a version for the 99/4A. Write to:

Borland International
4113 Scotts Valley Drive
Scotts Valley, California 95066

No we haven't gone to advertising for revenue but there's a spread in the newsletter for Olympic Software, a reputable TI dealer. They offer a 10% discount to all members of the Winnipeg 99/4 User Group and also offer monthly specials. What is not listed they can get it for you if you request it. Overall they look pretty good so give them a try and tell them the Winnipeg 99/4 User Group sent you and tell them that you are a member.

That wraps up this issue, I hoped you enjoyed it as it takes some time typing in all this stuff. Also thanks to MICROpendium for supplying the club with another year's subscription to it. I hope you will support them by subscribing to it, they keep us orphans uptodate on what's happening out there. The cost is \$15.50 US for Canadian delivery and you can contact them by writting to:

MICROpendium
P.O. Box 1343
Round Rock, TX 78680

Technicians Corner:

Subject: Overall System Map.

Courtesy: Miller Graphics

The Overall System Map contains all of the addresses that are directly accessible by the TMS 9900 microprocessor. Along with this 64K block of memory our systems contain an additional 16K block of VDP RAM that is accessed through the TMS 9918A video display processor. Our system is also currently set up to access up to 48K of GROM, Graphics ROM, but with a little additional hardware it can access up to 498K of GROM. We will talk more about this in future issues when we discuss GROM and GPL, Graphics Programming language. Right now lets break down the Overall System Map.

ROM - Read Only Memory. You can only read, CALL PEEK, from this memory, you cannot write, CALL LOAD, to it.

ROM comes in many forms, some of which are ROM, PROM, EPROM, EEPROM and GROM, but they all serve a similar basic function and that is to store information. This information is in the form of numbers and in our systems the numbers range from 0 to 255 in each address. These numbers are used by the CPU, TMS 9900 microprocessor, as programs, subprograms, data and vector or jump tables.

One of the main differences between the different types of ROM is how they are programmed. ROM and GROM are generally programmed with a mask at the time of manufacturing by etching the program right into them. PROM stands for Programmable ROM, and they are programmed through a PROM, EPROM or EEPROM programmer. This process is commonly called "Burning a PROM". Once a PROM is burned it cannot be erased, on the other hand EPROM's, Eraseable Programmable ROM's, can be erased by exposing the chip to strong ultraviolet light, a sun lamp, for about 15

minutes. EEPROM's, Electronically Erasable and Programmable ROM's, can be erased with a special electronic signal.

Our systems mainly contain ROM's and I haven't found ANY EEPROM's so you do not have to worry about wiping out your system's programming by typing in the wrong thing. As a matter of fact, over the past five years I have yet to find any command or commands that have hurt my systems at all. The worst I've done is to lock them up but that is easily recovered from by turning the console off and then back on again. So feel free to type in whatever you want, you can't hurt it.

One last note on ROM, it is a nonvolatile type of storage which means that it retains whatever was programmed into it even when the power is shut off. Without any ROM and GROM in our computers we could only communicate with them in machine language, until we loaded some smarts into their RAM.

RAM - Random Access Memory. You can read, CALL PEEK, and write CALL LOAD to this type of memory chip. RAM is a volatile type of memory in that it forgets whatever was programmed into it when the power is shut off.

This is where most of the activity goes on when you are programming or running a program. We have four areas of RAM in our computers, VDP RAM, Low memory expansion, the area for memory mapped devices and the scratch pad and finally High memory expansion. It is also possible to have RAM in the Cartridge Port and DSR areas of memory. Lets look at the different areas of memory and how they are used in our systems.

>0000 - >1FFF ROM 8K Bytes

Hex 0 through 1FFF is the area of CPU memory that is reserved for ROM in our systems and contains the following:

The Interrupt Vectors and interrupt processing for Auto sound, Sprite motion, Interval timer and DSR interrupts.

The XOP (Extended Operation instruction) vectors.

The keyboard scanning routine.

The GPL (Graphics Programming Language) interpreter.

The low level cassette DSR (Device Service Routine.)

Part of the Basic interpreter.

The Radix 100 floating point routines for addition, subtraction, multiplication and division.

The subprogram and DSR search routine.

It is this section of memory along with GROM chip 0 that takes control when we turn the console power on.

>2000 - >3FFF RAM 8K Bytes

Hex 2000 through 3FFF is mapped out for Low memory expansion. When you plug the 32K memory expansion card in 8K of it is mapped into this space and the other 24K is mapped at a higher address. If you do not execute CALL INIT this space will not be used by Extended Basic. When CALL INIT is executed the Extended Basic command module loads some Assembly language routines into this area. This space is used by the Editor Assembler command module and when you select this module from the menu the Assembly language routines are automatically loaded into this space.

>4000 - >5FFF ROM 8K Bytes

Hex 4000 through 5FFF is the area of our memory that is mapped out for the DSR's, Device Service Routines. This area is zeroed unless you are accessing the RS232 card, disk controller, P-Code card or the Video controller peripheral.

A DSR is nothing more than the programming necessary to communicate with one of these devices. When you access one of these cards, such as OLD DSK1.xxxx, the DSR for that card is paged into this space for the CPU to access it. This paging is handled by the TMS 9901 Programmable Systems Interface chip which takes care of the interrupt and the Input/Output interface functions. The DSR is only pages into this area during the exact moment that you are addressing the card, such as OPEN #1:"RS232" or PRINT #1:"HELLO" and then it is paged back out so you can not peek into this area from Extended Basic and see the DSR.

>6000 - >7FFF ROM and/or RAM 8K Bytes

Hex 6000 through 7FFF is the area of memory that is mapped out for the Command Module's ROM and/or RAM. Some of the command modules such as the Disk Manager and the Editor/Assembler do not contain any ROM or RAM so with these modules this area is zeroed out.

The Extended Basic module contains 12K of ROM and it is mapped into this area. How, you might be asking, do they fit 12K into an 8K space? They do it by flip/flopping (paging) the 4K of ROM at >7000 - >7FFF. This is accomplished by writing to ROM address >7000. This is one of the few times that executing a CALL LOAD to a ROM address has any effect. If you execute CALL INIT :: CALL LOAD(26022,1), you will find that your computer locks up and you will have to shut it off and back on to regain

control and this is because you flipped part of the Extended Basic language at the wrong time.

If you have the Mini-Memory module plugged in the >6000 - >6FFF (4K) is ROM and >7000 - >7FFF is Mini-Memory RAM. As you can see this block of memory varies with each of the modules that are plugged in. One last note on this space, even though the cartridge is mapped into this space the GROM in the cartridge is accessed from a different location in memory.

>8000 - >9FFF RAM 8K Bytes

Hex 8000 through 9FFF is the area of memory used for memory mapped devices such as VDP RAM, GROM, the Sound & Speech processors and it is also used for the CPU's scratch pad area.

Scratch Pad RAM is the area of memory that the CPU uses to hold a wide variety of temporary and system information. The scratch pad occupies 256 bytes of a 1K block. This 1K block is not fully decoded so the scratch pad repeats itself every 256 bytes within this block. In our systems the scratch pad is at >8300 through >83FF but you can find the same information at >8000 - >80FF, >8100 - >81FF and >8200 - >82FF.

This area of RAM operates very fast because unlike the Expansion RAM which is on an 8 bit bus this area of RAM is on a 16 bit bus. If you write assembly language programs you should try to keep your workspace within this 256 byte area but be careful of the precautions called out in the Editor/Assembler manual on pages 404-406. Because this area of memory has so much going for it we will be mapping it out in a future issue.

The remainder of the items between >8400 and >9FFF are known as memory mapped devices. These items are accessed through a small window, address, and they transfer one byte at a time, to or from, the device until all of the requested bytes have been transferred. Some of the devices have separate addresses for reading/writing data and setting up the address within the device to be read from or written to such as VDP RAM and GROM. While others may use special coding right in with the data stream to determine whether it is read or write operation and what address is within the device being accessed.

It is because VDP RAM is a memory mapped device and because TI did not provide PEEKV and POKEV statements in Extended Basic that we can not peek or load into it.

>A000 - >FFFF RAM 24K Bytes

Hex A000 through FFFF is the area of memory used for High Memory Expansion. If you have memory expansion attached to your computer this is where your extended basic programs are loaded

into and RUN from. This area also holds the line number table and numeric values for the numeric variables. The line number table is more or less a set of pointers that tell the CPU what address in memory a specific Extended Basic program line starts at. It is because the Low and High memory expansions are split up in the memory map that we can not load an Extended Basic program larger than 24K into our computers.

ADDITIONAL MEMORY NOT IN THE CPU ADDRESS SPACE

VDP RAM >0000 - >3FFF 16K Bytes

This is the memory that comes built into the console and it is separate from the rest of the CPU memory. If you do not have memory expansion attached to your computer this is where your Extended Basic programs reside and run from. Basic does not recognize memory expansion so your Basic programs always reside here, also a pure Assembly language program cannot be run from this space.

The TMS 9900 CPU addresses this space through the TMS 9918A VDP processor. This space is mapped out according to the language you are running in and the VDP mode you are in. In Extended Basic without memory expansion this area contains the following:

>0000 - >02FF Screen Image Table.
 >0300 - >036F Sprite Attribute Table
 >0370 - >077F Sound buffer, Crunch
 buffer, Roll out area
 for Floating point
 routines, Pattern
 descriptor table and
 Sprite descriptor table.
 >0780 - >07FF Sprite motion table.
 >0800 - >081F Color table.
 >0820 - >35D7 PAB's, Numeric Values,
 Line Number table,
 Program space, and
 String space.
 >35D8 - >3FFF Disk buffer space.

If you have memory expansion then >0820 - >35D7 is used for the PAB's and the String space. The Numeric values, Line Number table and Program space are moved into memory expansion at >A000 - >FFFF after the "PROGRAM" type file has been loaded from cassette or disk.

Article:

Subject: A quick fix for S-Bug bug

Courtesy: Tom Knight (MICROpendium)

When TI finally released Super Bugger it had a "bug" in that it is supposed to be able to disassemble or dump memory to a disk and will not properly do this. (In my opinion, this was a TI-induced bug.)

I have been working on this problem and have found a solution that, so far, seems to work fine.

With no other program in memory, "S-Bug" loads from <A000 to >B96A and I will be referencing memory with this assumption.

Memory Location	Contains	Change to
A15A	3F20	101F
B2DE	7F00	0FFF
B2F2	3F09	1009
B32A	7F20	101F
B342	7F05	1005
B356	7F00	0FFF
B366	3F09	1009
B37A	7F00	0FFF
B382	3F09	1009

These locations are all references to either the PAB or the data buffer which is used by DSRLNK which, by the way, is included in Super Debugger as are the other utilities used by the program. It is completely stand alone. All of the utilities are very similar to the ones that come with the Editor/Assembler cartridge.

There are three ways to make these changes:

1. Each time you load the program you can make the changes while the program is running.
2. The regular version (uncompressed) can be changed using the "Editor" or with TI-Writer. Be sure that on each line that you also change the "checksum" flag to an 8 (it is normally a 7).
3. To change the compressed version you need Disk Fixer or something similar. You actually change the disk information. If you are familiar with the use of Disk Fixer you should have no problem, otherwise it could get very hairy.

Article:

Subject: At the Faire

Courtesy: David Wakely (MICROpendium)

On Nov. 10, 1984, the Chicago TI99/4A Users Group held its second annual 99/4A Computer Faire at Triton College in River Grove, Illinois. Months of preparation for the Faire culminated when the doors opened at 10 a.m. and visitors were admitted to the large exhibit room which held displays by 21 vendors. In addition to being issued doorprize tickets, fairegoers were given free shopping bags with the message "Still Goin' Strong at the 2nd Chicago TI99/4A Users Group Computer Faire, Nov. 10, 1984" printed on the side.

While most of the vendors of TI and third party software and hardware were from the Chicago area, tables were also taken by companies from Michigan, Nebraska, Ohio and Texas. From a list gleaned from various magazines which cover the 99/4A, the Chicago group had mailed vendor applications to just over 100 companies which could be identified as carrying TI-compatible products. Former Chicago group president and Faire coordinator Sam Pincus said that the group was pleased with the 20 percent response rate.

In a sense, preparations for the Faire could have said to have begun last year, when the group had put on the first such event. As it happened, the infamous "Black Friday," the day Texas Instruments announced it was dropping the 99/4A computer, had occurred just two weeks prior to the first Faire. As a result of that, the group was somewhat surprised when just over 1,000 persons, or about three times the number who belonged to the Chicago group at that time, attended the Faire proceeded to strip vendor displays clean of TI software.

Hence, by the time of the second Faire, TI owners had been "orphans" for a year, and the need for a display of "TI power" seemed in order to once again demonstrate the fierce loyalty for which the TI user is known. Through aggressive advertising both in Chicago and over The Source and CompuServe, the Chicago group began drawing attention to the Faire, and TI users from all over began making inquiries as to the location of the site, Triton College. Several local motels were booked up on the evening before the Faire, and by the end of Saturday just under 1,500 persons were estimated to have passed through the doors.

While about 90 percent of the membership of the Chicago 99/4A Users Group attended the Faire, visitors also came from the other states. TI users from all over stopped by the Chicago group booth to say hello. Ed York from the Cin-Day Users Group checked up on our group newsletter; Chris Goodman from the DC group seemed to be enjoying the proceedings; and a small group from Coraopolis, Pennsylvania, stopped to say thanks for the directions to the college from O'Hare Field. The Chicago group booth was busy all day. Winners of three door prize drawings picked up their software packages. Hundreds of free copies of MICROpendium were given away, a top quality Zenith color monitor

was awarded to a lucky winner and two arcade game contests drew small crowds of supporters for their favorite "gamers."

All fairegoers experienced a demonstration that the TI Home Computer is indeed quite alive for those who have stayed active and involved. The Chicago TI Users's Group held a series of tutorial presentations during the day to show the continuing versatility and usefulness of the 99/4A. Seaborn Smith, whose TI FORTH programs and newsletter column are becoming known to other TI groups, gave an interesting and well-attended introduction to this quite flexible program language. These tutorials were held in a separate room which could seat about 250, and which was usually filled for each presentations.

Between presentations, Faire attendees could observe TI myths of both past and the future. At the Softmail Inc. booth, for example, was displayed the near-legendary TI 99/8. Don Bynum, former head of TI's Home Computer Division, stated that only 250 "8's" had been built, all of them going either to the design team, TI executives or the production line employees. The TI 99/8 was indeed the home computer hobbieist's dream. According to Bynum, the 99/8 featured 64K of CPU RAM and 16K of VDP RAM, compared to the 99/4A's 256 bytes of CPU RAM (also known as "scratchpad" RAM) and 16K of VDP. This never-released computer also featured a built-in p-Code system and a 10MHertz TI-9995 CPU. The built-in BASIC was compatible with Extended BASIC and contained additional commands such as "LINE," "DRAW" and "FILL" for easy graphics generation. When booted up, the TI 99/8 offered several option screens, including choices of p-Code, BASIC or whatever module was plugged into the verticle cartridge port. In design, the 99/8 was reminiscent of the beige 99/4A consoles, yet was both wider and deeper, and featured a full "selectric" style keyboard layout. One of the option screens also offered both "FAST" and "SLOW" (the 99/4A 3.5 MHertz) processor speeds, and did so before other choices. Hence, at one point a TI Invaders cartridge was selected in FAST mode with hilarious results less reminiscent of an invasion than of a blitzkrieg.

An elaborate, and obviously bitmapped graphics demonstration ran on the TI 99/8 most of the day, and was later revealed as a 180-line BASIC program. When questioned as to why TI never brought the 99/8 to market, Bynum stated that some TI executives doubted that the public would be interested in a home computer with a suggested retail price of \$600. He also stated that TI will release the design to someone else as "practically nil" noting that TI would probably not want to see someone else make money on a product they never saw fit to market. On the other hand, during his guest talk late in the day Bynum exhibited a guarded optimism about the future of the 99/4A.

Other vendor booths featured either still available TI

software, or new and sophisticated application packages for the 99/4A, ranging from graphic adventure games to useful system utilities. Unisource Electronics, by special arrangement with CorComp Inc., showed off the new 9900 Micro-Expansion system, a unit about the size of two speech synthesizers but packing the power of a "loaded" peripheral expansion box, with a double-density disk controller, RS232 and 32K memory all built in.

Between trips around the vendor tables, TI users could take in some of the other tutorials, such as Sam Pinicus' presentation on control codes and TI-Writer, or Len Rovner's introduction to Microsoft Multiplan. Traffic was heavy all day between the main room and the vendor area.

During the keynote speech to the largest audience of the day, Bynum, now the driving force behind Softmail Inc. and Texas Peripherals, stated unequivocally that 2.4 million 99/4A units were sold, making it by far the largest selling computer of any kind. The two concerns he reported were the belief that recently up to 1,000 99/4As per day were estimated to be "going into closets," and the rampant epidemic of software piracy. Of the latter, he stated his belief that these so-called "pirates" are actually criminals who are rapidly destroying the third-party marketplace. The possible outcome of this, according to Bynum, could be "less and less quality software" appearing for the 99/4A as programmers see their profits disappear.

On a more positive note, Bynum noted some excellent resources for the TI user, including the International User Group, MICROpendium and especially the new TEXNET service on the Source (of which Bynum is the TI Sysop.) This new TEXNET will feature an online TI magazine, information about TI user groups, TI news and an active software exchange. In fact, Bynum noted that, despite the few upgrades to TEXNET over the past year, the TI program exchange is still the Number 3 database on the Source in terms of use. TEXNET will also feature credit-card purchasing of new, inexpensive (\$4.95-\$9.95), downloadable software, and Bynum stated that programmers will be offered 20 percent royalties for their work if selected for inclusion in this service.

Source subscribers who have dropped their membership may be reinstated by contacting the Source and giving the appropriate credit card number.

Bynum fielded questions on the future of TI's support for the 99/4A. He noted that with other consumer products TI has given up to five years of exchange service, and, while making occasional disparaging or humorous comments about TI's marketing philosophy, he described their corporate integrity as "incredible."

W99/4UG BOOK LIBRARY:

The following books are available for use by Club Members only and are normally only available at each monthly meeting by requesting them from Book Librarian, Doug Howe. Because we have had problems with some members not returning a book to the Librarian by the following meeting there will be a future penalty for late returns. Here again is the list of books available for a one month period:

- 1) Programmer's Reference Guide to the TI-99/4A
by C. Regena
- 2) Terrific Games for the TI-99/4A
by Hal Rendo & Sam Edwards
- 3) Time Lost - A Computer Adventure
by Que Corporation
- 4) Programs for the TI Home Computer
by Steve Davis
- 5) TI-99/4A Game Programs
by Frederick Holtz
- 6) Smart Programming Guide for Sprites
by Craig Miller
- 7) The Source User's Manual (1983)
by The Source Telecommunications Network
- 8) Compute's First Book of TI Games
- 9) TI-99/4A Console Technical Data
- 10) Best of 99er
by Home Computer Magazine

W99/4UG PROGRAM LIBRARY REGULATIONS

1) The W99/4UG Program Library shall consist of owner written and/or translated programs. Programs copied from any magazine will not be accepted.

2) The W99/4UG Program Library will not be responsible for any bugs in any program submitted, nor shall the W99/4UG Program

Library make changes to any program. Corrections will be the responsibility of the owner and it will be the responsibility of that person to send a corrected version of that program.

3) The W99/4UG Program Library shall charge :

\$2.00 for the program (goes to author)
 \$1.00 for cassette or provide replacement cassette
 \$4.00 for diskette or provide replacement diskette

4) Instead of paying for a program a member may use the software exchange program. Any member that submits a program to the W99/4UG Program Library will receive three programs in exchange.

5) The W99/4UG Program Library is open to any member of the Winnipeg 99/4 Computer Club.

6) Any member found pirating another member's program will be asked to leave the group.

7) The Winnipeg 99/4 Computer Club is not responsible for the content of any program in its library.

PUBLIC DOMAIN LIBRARY:

This segment of the library consists of programs which have been published in a magazine, such as 99'er, and belong in the public domain. In addition, certain individuals have decided to submit their programs to the Public Domain library instead of the main club library where there is a royalty fee.

The Public Domain library now has almost every game published in 99'er as well as some programs from COMPUTE and other magazines. For those of you whose interests lie in applications rather than games, we have a small selection of those. Now is the time to contribute to the Public Domain library.

Remember, you may receive a copy of any program in the Public Domain library at no charge. All we ask is that you contribute a program if you have one that the Public Domain library does not have.