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Lynnwood, WA 98036

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**NOVEMBER 1986** **Vol. 5 No. 11**  
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NEWSLETTER:	GENE CHRISTIANSEN	641-1032	LIBRARIAN :	JOHN ROLAND	672-7593

**NEXT MEETING**

DATE : THURSDAY, November 20, 1986 TIME: 7:00 PM  
PLACE: Kirkland Public Library, 406 Kirkland Ave, Kirkland

- AGENDA: \* Officer reports \* Officer nominations continued  
\* Extended BASIC tutorial \* Voting on membership dues increase  
\* Myarc GENEVE demonstration \* Question and Answer session

**DECEMBER MEETING**

DATE : Thursday, December 18, 1986  
TIME : 7:00 PM  
PLACE: Kirkland Public Library  
406 Kirkland Ave, Kirkland

**JANUARY MEETING**

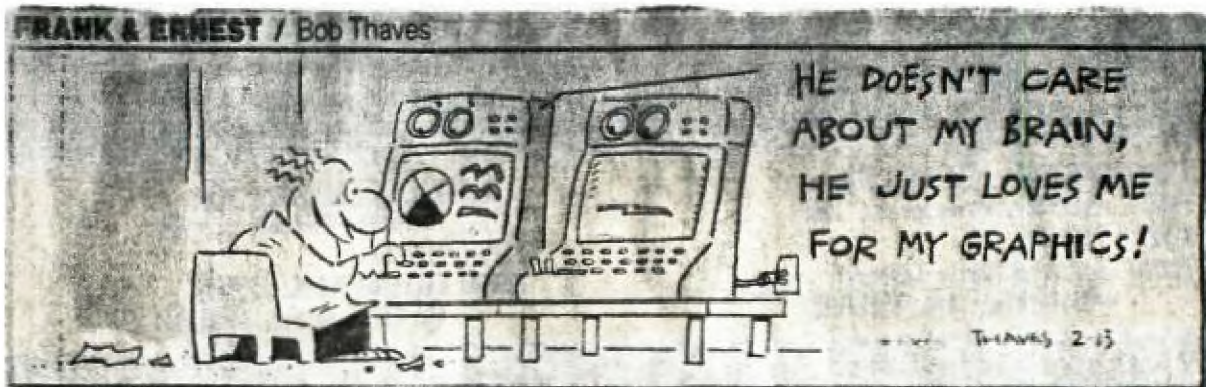
DATE : Thursday, January 22, 1986  
TIME : 7:00 PM  
PLACE: Kirkland Public Library  
406 Kirkland Ave, Kirkland

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SOME LOCAL BULLETIN BOARD NUMBERS

<u>TITLE</u>	<u>PHONE NUMBER</u>
PUGET SOUND 99ERS BBS-SEATTLE	784-4142
TIBBS NW-ED DURFFEE-BELLEVUE	641-5884
QUEEN ANNE COMPUTER SHOPPE	361-0895
NEW WORLD BBS	365-6938
BAINBRIDGE ISLAND	1-598-3228
TELETRAVEL	742-9034
SHUTTLE	885-INFO
TROTHGUARD-BURIEN	824-6757
RADIO 1	878-0158
GENie	1-800-638-8369



THE PRESIDENT SAYS

By Chuck Wynne

There are certain programs for the TI that are most important to have if you are to live in the best environment. One is the Archiver by Barry Traver. This program is used to save in one file the documentation, program and any files related to it. You use this program to place them all in the one file, or to dissect them into the runnable format. You can use this for backup, which also takes up much less room on a disk and keeps it all together. If you use a modem and download from a Bulletin Board System, some of the files will have ARC after them. They are in archive format and must be dissected with this program. Of course there are other programs that do the same only different. One is called compactor. I haven't used this one, and maybe we went on our BBS. In any case, ARC will be used.

Another program which is a must is Funnlwriter V3.3. This is the newest version and is on the shareware market. It is a TI writer with more options than I can explain. It is a sector editor for disks, a editor assembler, a disk manager with DM1000 V3.5, and has a user section for pulling up any other utilities you may wish to incorporate. It will run with Mini-Memory, the Cor-Comp controller, the Myarc controller only, or the XB module, or the E/A module. At any time, hitting FCTN AID will catalog a disk. By the way, DM1000 V3.5 will catalog a disk and, if you want to print what is in the file, simply press "P" in front of the selection and it will print. The Fun-L-Ware program came from Funelweb Farms Australia, and is the most comprehensive program for the TI I have ever seen. It also has Clint Pulley's small "c" language on it. And, if you have anything but formatter as the second selection (it is switchable), the editor changes to fixed non word wrap mode with the proper tabs for typing source code. Another thing..... if you want to save any file as DIS/FIX 80, you simply type "PF", then F DSK1.PROGSOURCE. (Page 77 of TI Writer). This editor is used to format source code in "C" language, and assembler.

Try the freeware program called "REDISKIT". It will format the target disk and complete a copy in about 37 seconds (SSSD) or 1 minute 17 seconds (DSDD). No error checking takes place, but what a speedball! It beats Corecomp and DM1000 hands down. It doesn't seem to work on a Myarc system though.

Elections are coming up. I will at the next meeting announce the names of nominees and ask for more. The ones

nominated will have the opportunity to decline if they wish.

A special thanks to Chris George for his support in getting our board on the air again. He has done a good job on the program. It is not perfect at this time, but bear with us as this all takes time and knowledge to complete the task. A thanks to Keith Johnson in Ballard for letting us have the board at his house. Thank you Gene Christiansen for your help also.

Here is some ways of gaining more memory for programs. If you use CALL FILES(X) (1-4) you will come up with the following results after typing new.

```
CALL FILES(1) 12,876 K
CALL FILES(2) 12,358 K
CALL FILES(3) 11,840 K
CALL FILES(4) 11,322 K
```

If you only need one file open, you can gain back some memory. Some programs require you to CALL FILES(1) before you can even run them. You can have up to 9 files open on a TI at the same time. Quite a bunch.

E-A-M

By GENE CHRISTIANSEN

"NOW IS THE TIME FOR ALL GOO MEN TO COME TO THE AID OF THEIR PARTY!" This well-known (some would say "well-worn") statement is more pertinent now than ever before. With the upcoming club elections, it is incumbent on EACH of us to not only nominate, but vote for those people we feel will help our organization to be all it can be.

It is the very nature of the democratic process that allows those us INTERESTED to select our leaders. The only flaw in this plan is participation. If this is lacking, then neither the nominations nor the votes reflect the aims of the group as a whole.

This is where YOUR voice can be heard. Take an active part in the nomination process by naming people you feel can help the club. Then exercise your right to vote to provide YOUR organization with the leadership it deserves.

This year it will be even easier (and, I hope, more of a total group reflection) because we of the newsletter will include absentee ballots for those unable to attend in person. See you at the polls!!!

Recently I came across a flyer announcing a new product from Asgard Software. It is called "FONT-WRITER" and was written by J. Peter Hoddie (PRE-SCAN IT!). From what I have read, this seems to be the TI answer to PRINT SHOP.

This new software allows you to mix graphics (a la TI ARTIST) in the text of a TI-WRITER document!!! Just the thing to create letterheads or anything else that combines illustrations and text!!! Font Writer is more than just a program. It is a complete software package that allows you to edit existing TI-Artist or CSGD fonts, or create new ones from scratch. A wide range of utilities makes this a truly remarkable piece of work designed for our computer. The price is \$24.95 and Barbara Wiederhold (Queen Anne Computer Shoppe) already has it on order.

Not to be out done, Millers Graphics is developing its own version of a "Print Shop". No word on the price or its availability. This 100% Assembly Language product is said to be completed but holding up shipment is the creation of fonts.

There are persistant rumors of a new flight simulator being designed for the TI 99/4A.

For those who have the Myarc Disk Controller, there is now a quad-density disk controller updatage available for \$49.95. Myarc has also started to advertise their new hard disk controller. This will replace the Myarc Personality card and the Winchester controller card, both of which are needed to run a hard disk now. This gives you an open slot for the Geneve card, whose shipment will be "any day now".

The Boston Computer Society has a book "TI-Writer Tips and Tricks" available for a paltry \$2.00. The address is: Boston Computer Society, TI 99/4A User Group, One Center Plaza, Boston MA 02108.

All seems to be right in the BBS world again. TIBBS NW (641-5884) is still cooking along. John Brittingham (sysop for Trothgard) is back from his cruise and his board is to be restarted. Along with this, the QACS board is up again. And, in the tradition of saving the best for last, I'm happy to announce the return of our board! When Ralph Devin moved we needed to find a new home for the equipment. This has been done, while keeping the old phone number (784-4142). Also, while the board was down, Chris George has modified the software to incorporate 1200 baud. He cautions us to be patient, though, as there are some enhancements/fixes he has in the works before the BBS is "perfect".

I got an interesting call the other night from a fellow member. It seems that he recently purchased an Avatex 1200 baud modem but his cable wasn't right. First, let me state

that most IBM-PC hardware (printers, disk drives, modems, and etc.) work fine on the TI 99/4A. In some cases, as with the modem cable, a small modification is necessary, though. To wire this (or any Hayes compatible) modem, you need to reverse some of the pins. The correct configuration is for #1 to #1, #2 to #3, #3 to #2, #5 to #5, #6 to #20, #7 to #7, #8 to #8, and #20 to #6. It makes no difference which end is plugged to which device. Another tip for the Avatex modem is to have dip switch #6 in the down (or ON) position. This forces a carrier detect. Some BBS's do not generate a very strong tone and distance or bad weather can cause a loss of signal, thereby having the modem terminate the call. This can be a lot of fun when downloading a nice, long file.

The new users group (as yet unnamed) that has started in the Federal Way-Kent area is selecting its first officers and will be working on by-laws soon. Call Dan Putnam for more information at 839-2687.

I would like to again extend the invitation to submit items to this publication. If you have recently purchased a new program or piece of hardware, send us a review! The more that know of the merits of the various TI products also help the developers - who, in turn, help all of the 99/4A community. I have said that this is YOUR forum, so use it!

Well, that is about all for now. Let me urge you again to vote in upcoming elections. See you at the next meeting!

### HACS-THE NEW TI ACCOUNTING PROGRAM

By TIM BABCOCK

Now available in the user group library, and on a few of the BBS's in the Seattle area, is a new freeware accounting program written by myself, called HACS (for Home Accounting Control System). This software uses Extended BASIC, memory expansion, 1 or more disk drives, and (as an option) the Cor-Comp clock.

HACS is an alternative for managing your checking and savings accounts on a month-to-month basis. What you, the user can do, is set up to 100 expense or income accounts in any order or any combination. These accounts are anything you wish, as long as they are income or expense accounts. These accounts can also be added to (updated) at any given time.

Once the accounts are set up, make sure that you use the installation program. This installation program must be told what your current checking and savings account balances are. This is only done to setup the first month, thereafter

the computer will update you bank balances at the end of the month for you using the posting program.

In the entry part of the program, you can either add accounts, or do a transaction. To create a new account, you type in the account number, the name, and E (if an expense) or I (if an income). With transactions, you type in the account number. The account name will be displayed on the screen. Next, enter in the amount of the transaction. Once that is done, the computer will do one of two things.

1.) If it is an income transaction, the computer will add that amount to the general ledger, and if it involves a deposit to a bank account, the computer will post the amount to either the checking or savings file depending on the transaction.

2.) If the transaction is an expense, you will be given three choices. If, for instance, you paid your electric bill by check, press 1 for check, then type in the check number. If you paid with money from savings, press 2 for savings. If you just paid cash or money order press 3 for cash.

The computer will also ask for the transaction date. If you made the transaction for the date you are using the program just press Y. If the transaction occurred on a date different than today, just press N and enter the transaction date.

The reports section of this software covers monthly posting and history reports. Monthly posting is used at the end of a month. It prints out, onto a printer or any other output device you want, at least 10 pages of reports. The first report is your General Ledger. The second is your checking deposits and check register. This is followed by the savings account reports. The fourth is the cash report. After that the computer will display your new checking and savings balances. If you are satisfied with them, you press function 6 on the keyboard and the computer will print out the new balances to the printer and update the balances to the disk. You are now ready to go to the next month.

The history reports section is just a way of calling up a particular report by month, without the posting.

The version 1.0 includes the program and 20 pages of documentation. Version 1.1, which will be out by the end of the month, will include four programs with documentation.

This is a freeware program and I am asking for a \$6.00 registration fee per user. Once you pay, please enclose the registration/comment form in the back of the documentation with your money. Any comments and improvements from you will help me make the program better suit your needs. Once the original payment is made, you need not pay for any other new versions.

Enjoy the program, and you will be getting new updates

on a regular basis (Yes, updates...that's plural).

### GENEVE t.m.

#### 9640 DETAILED FEATURES

(Downloaded from the Queen Anne Computer Shoppe BBS)

"Important new features include the following:

#### TMS9995 Processor

- \* Runs at about 3-4 times faster than in 99/4A
- \* Runs same instruction set as 9900 used in 99/4A plus 4 new ones
- \* About 3-4 times faster than 9900 in 99/4A
- \* Pipelined processor(i.e., u-processor performs more several functions at a time)

#### V9938 Advanced Video Display Processor \* Is software compatible with TMS9918A (used in 99/4A)

- \* Uses 46 registers for high speed "HARDWARE" graphics commands
- \* Commands include: DRAW           SEARCH  
                                  FILL           MOVE
- \* Uses Color Pallet of 512 colors on the screen at a single time
- \* 7 modes of graphics operation of which some allow 256 colors
- \* True BMG(Bit-Mapped-Graphics)operation
- \* Both Composite(like the 99/4A) and Analog RGB outputs (like the Atari ST and Commodore Amiga)
- \* Supports up to 256 colors per screen in the 256 by 424 mode or 16 colors in the 512 by 424 mode
- \* Comes with 128K bytes of video RAM (8 times the amount of the 99/4A)

#### Real Time Clock Chip

- \* Gives you or your program instant access to date and time

#### Sound Chip

- \* Compatible with 99/4A(i.e., 3 simultaneous tones, 1 noise)

#### Awsome amount of RAM

- \* 512K of CPU RAM (user configurable between CPU-RAM, RAM-DISK or PRINT-SPOOLER)
- \* Expandable to 1 megabyte with MYARC 512K Card
- \* In 99/4A mode 64K of the 512K becomes GROM AND 16K CARTRIDGE ROM

#### Built-in MOUSE Interface

- \* Hardware in the card allows for the MS mouse to be



connected directly to the 9640 Board

\* Basic language support for the mouse built in using the industry standard MacIntosh mouse commands Standard Joystick Interface

\* Joystick Interface is compatible with the one used by the 99/4A.

Hardware and Software Support for the most common peripherals:

\* Floppy Disk Controllers include MYARC, TEXAS INSTRUMENTS, CORCOMP

\* RS232 Cards include MYARC, TEXAS INSTRUMENTS, CORCOMP

\* RAM-DISKS include Horizon Software Support from MYARC

\* MYARC DOS (similar to MS-DOS 2.1)

\* MYARC ADVANCED BASIC

-Compatible with TI Extended Basic

-Supports all modes of the Video Processor (including 80 column)

-Supports Windows

-Supports Easy to program MOUSE commands

-Combined Text and Bit Mapped Graphics Modes

-Drawing Commands such as CIRCLE, RECTANGLE, ETC.

built-in

\* Program patches to make TI-Writer more powerful and display 80 columns

\* Program to save your 99/4A cartridges to disk

SOFTWARE SUPPORT FROM OTHER VENDORS:

\* PECAN SYSTEMS

-UCSD Pascal Runtime (included FREE with the 9640 "Geneve"

-UCSD PROGRAMMING LANGUAGES (EXTRA COST)

-UCSD FORTRAN 77

-UCSD COBOL

-UCSD PASCAL

-UCSD BASIC

-PLUS thousands of other applications ranging from PIG MANAGEMENT to Office Management to Office Management to Home Education

\* INSCEBOT

-TI-ARTIST

-MacPAINT EQUIVALENT

\* DATABIOTICS

-The Music Shop

-Super-Super 4th

-Super Word

-The Terminal Connection

- The Professional Business Assistant
- Macro Assembler
- Pilot
- Lush Brush
  
- \* PIKE-CREEK
  - General Purpose Accounting Software
  
- \* BRYGHT-DATA
  - Professional Business Accounting Software
  
- \* PAUL CHARLTON
  - Fast-Term II
  
- \* CLINT PULLEY
  - Big C Compiler
  
- \* CSI DESIGN GROUP

### Assembly Language Tutorial: Part II

By Doug Rose

Before we get started this month I want to make sure you are not giving up because you are overwhelmed by all of this talk about registers. As we start doing some programming, the understanding of registers will start to fall in place. One of things that will help relieve some of the confusion is Miller Graphics' "Explorer". I will be using Explorer because of its ease of use rather than the programs, Sbug or Debug. This will be demonstrated in the future at an intimate time of our meeting.

Each word in the computer is 16 bits long. In order for it to have signed numbers ( + number or - numbers ) one of these bits must be used. Because of this when we are using signed numbers, the most significant bit is used to represent a positive number or a negative number. Any number above 7FFF or 32767 is a negative number. When peeking or loading in Extended Basic if the number is above this we must subtract 32767 from the number to come up with the proper address to load in memory. If the number is not a signed number we could add all the way up to 65534. With Explorer we can easily see which numbers turn on the last bit. Type FCTN AID and then type hex 7FFF. Next type hex 8000. You will easily see the equivalent decimal and binary numbers as you type.

You might be saying about this time "how come our computer can add above the millions using signed numbers?" Our computer has software built into it that allows us to store our number in more than one word so that we can have

quite large numbers. It is up to us when programming in assembly language whether or not we want to use signed numbers.

One of the things the status registers help us keep track of is the state of our numbers being processed. It can tell us if a number could be a negative number or if it is a positive number, if it is equal to zero, if two positive numbers added together produce a negative number and if two numbers added together are longer than 16 bits long. Bit number zero of the status register is the logical greater than bit. If this bit is set, then the number is any number as long as it is not a zero. There is no such thing as a negative number as far as the logical greater than bit is concerned.

If you want negative and positive numbers, then bit number one of the status register and the arithmetic greater than bit are used along with the most significant bit of your number. If bit number one of the status register is set, then the number is a negative number. If the most significant number is not set then the number is from 1 to 7FFF. Notice that this number doesn't go up to FFFF. As stated above any number above 7FFF will put a one in the most significant bit of the status register causing the number to become a negative number. Remember again, that it is only a signed number if we as programmers decide to use it that way. (1111111111111111=FFFF = negative number, 0111111111111111=7FFF = positive number).

Next is the Equal bit, bit number 3. If the answer to your problem is equal to zero, then this bit is set. Also, when comparing two equal numbers to each other will turn bit number 3 on.

The carry bit is set when your answer is carried out of the one word interrupt mask. These use bits 12 through 15. Bits 7 through 11 aren't used.

The next article, maybe next month, will have to programs. One will be very simple and of no use except for an example. The other one is used to develop screens for extended basic programs.

#### LEARNING LOGO-PART 4

By TIM BABCOCK

It's been a few months since I have written another lesson here, but with my time being occupied with a new home accounting program for the TI that I have been busy working on, I find that I can't get to everything. So thank you for being patient.

In the last lesson, I discussed how to create graphic characters in Logo, so this lesson, as promised, I will talk

about Sprites.

As some of you may know from TI Extended BASIC, sprites are moving graphic characters that can travel at various speeds, and have basically four different size settings. The same rules for Sprites applies in Logo. You can have up to 31 sprites defined at a time, and they can overlap each other. What is different is the simplicity of making them do something.

To define a sprite in Logo you first use the command:

**MAKESHAPE** (followed, of course, by the sprite number)

By typing in: **MAKESHAPE 1** you would see a plane in the grid. Logo puts five sprites into the character section for sprites. You can change these to any shape at any time by using the **MAKESHAPE** command followed by the particular sprite number. Remember, as with graphic characters that we learned from the last lesson, Logo character definition is done in an editor mode rather than a command follow by a series of hexadecimal numbers.

Any time you want to move a sprite, just type in the command:

**TELL SPRITE** (followed by the sprite number)

This tells Logo that any sprite commands following, will apply to that particular sprite.

If you use the command **HOME**, the sprite will be placed in the center of the screen. However, before you do any movement to the sprite, first set its color. This is done by using the command:

**SETCOLOR:** (followed by the color)

You don't need to memorized numbers to call up a color. Instead, just type in the name of the color, for instance, to make the sprite red, you type in:

**SETCOLOR:RED**

This will now set the active color of the sprite to red.

You can use the same commands shown in our first lesson on moving the turtle. So, commands like **FORWARD**, **RIGHT**, and **SETHEADING** work. Remember to put the number in after the command.

Also built into Logo are commands that use direction names (**NORTH**, **SOUTH**, **EAST**, and **WEST**). These values can be

used after the command SETHEADING. SETHEADING:EAST will move the active sprite east.

To make a sprite move, use the command:

SETSPEED (followed by the number)

For instance, SETSPEED 10 will move the sprite rather slow. Increasing the value will move the sprite faster.

Sprites in Logo can be defined by using either a name or a number. If you want to use sprite one, you can also use the command:

CARRY:TRUCK

The CARRY command followed by the sprite name, will now make that particular sprite about on the screen.

In the next lesson I will talk to you about tiles, a very creative way of doing graphics in Logo. Until then, HAPPY COMPUTING!!!

### USER GROUP EXCHANGE

We are currently exchanging newsletters from across the country and Canada. We send our newsletter to these groups and in exchange, they send us theirs. These newsletters that we receive are intended for you to get more information about your TI99/4A. We are planning to have a software Saturday soon, and we will have them available for you to look at or copy.

The following is a list of the newsletters we have received:

Name of Group/Newsletter	Location
Western Washington Computer Club	Tacoma, Washington
Tri Cities 99ers	Kennewick, Washington
Boise 99ers Computer Club	Boise, Idaho
TILT-Eugene 99/4A Users Group	Eugene, Oregon
Network-Sacramento 99ers	Sacramento, California
TOPICS-Los Angeles 99ers	Los Angeles, California
ROM-Users group of Orange County	Fountain Valley, California
San Diego Computer Society-TISIG	San Diego, California
Cleveland area 99/4A users group	Cleveland, Ohio
San Antonio Area Users Group	Universal City, Texas
TI-RUG-Riverside users group	Riverside, California
Bayou Byte	Lake Charles, Louisiana
Fond Du Lac 99ers	Fond Du Lac, Wisconsin

HUG-Hoosier user group	Indianapolis, Indiana
MSP 99-user group	St. Paul, Minnesota
Mid America users group	Shawnee Mission, Kansas
Edmonton users group-99er ON LINE	Edmonton Alberta, Canada
HUG-Houston users group	Houston, Texas
Johnson Space Center TI users	LaMarque, Texas
Chicago Times	Chicago, Illinois
Central Iowa 99/4A users group	Des Moines, Iowa
Pittsburgh users group	Pittsburgh, Pennsylvania
CALL Newsletter	Atlanta, Georgia
Byte Line-Decatur 99er group	Decatur, Illinois
The Suncoast Beeper	St. Petersburg, Florida
JUGS Newsletter	Jacksonville, Arkansas
The Fox Valley users club	St. Charles, Illinois
Arizona 99 users group	Phoenix, Arizona
99er Times-San Fernando Valley	Canyon
Country, California	
San Fransisco 99ers	San Fransisco, California
West Penn 99'ers Club	Jeannette, Pennsylvania
Bug News-Brea 99ers users group	Whittier, California
Bits and Bytes-South Bay users	San Jose, California
Kitsap County 99ers	Bremerton, Washington
Boston Computer Society	Boston, Massachusetts
R/D Computing newsletter-Ryte Data	Haliburton, Ontario Canada
Greater Orlando 99ers users group	Maitland, Florida
The SNUGLETter-Southern Nevada 99s	Las Vegas, Nevada
Rocky Mountain 99ers Tic Talk	Denver, Colorado
Pomona Valley computer group	Ontario, California
K3 TI users	Kankakee, Illinois

CALL LOADS  
by CLYDE CHANG

(The following is the most comprehensive list of CALL LOADS and CALL PEEKS that I have ever seen. It comes to us from the ALOHA 99/4A NEWSLETTER in Hawaii.)

ADDRESS VALUE(S)	DESCRIPTION
8192,A	PEEK - IF A<>70 OR A<>121, THEN DO A CALL INIT
8194,A	PEEK - A=FIRST FREE ADDRESS IN LOW MEMORY
8194,A,B,C,D	(C-A)*6+D-B=FREE SPACE IN LOW MEMORY AFTER CALL INIT OR CALL LOAD("DSK#.xxxxx:")
8196,A	PEEK - A=LAST FREE ADDRESS IN LOW MEMORY
8198,A,B	IF A/B=2 OR IF A*6+B-43605 OR IF A=170 AND B=85 THEN CALL INIT HAS BEEN EXECUTED
-26624,A	GROM INCREMENT (LOCK UP)

-25598, A GROM BRANCHING (LOCK UP)  
 +26022, 1 FLIP PAGE IN CARTRIDGE (LOCK UP)  
 -27648, x, x, x SPEECH CHIP LOCATION  
 +28672, 1 FLIP BACK PAGE IN CARTRIDGE (LOCK UP)  
 -28672, A 96 OR 255=SPEECH ATTACHED / 0 OR 127=NO  
 SPEECH ATACHED  
 -28672, 90, 165, 255,  
 80, 15, 248, 0, SAVES PROGRAM TO DISK WITH MINIMEM  
 0, 1, 27, 49, 11, OLD MINIMEM-SAVE DSK1.XXXX  
 48, 16, 63, 255  
 -28672, 165, 90 RELOADS FROM DISK..OLD DSK1.XXXX, SAVE  
 MINIMEM, THEN #  
 -31572, 0 TO 255 VARY KEYBOARD RESPONSE  
 -31700, 4 LAST SOUND ON  
 -31721, A SOUND CHIP ON  
 -31730, 33 QUIT TO TITLE SCREEN  
 -31740, A, B CHANGES BEEPS, WARNINGS, ETC.  
 -31740, 192 NO AUTO SPRITE MOTION OR SOUND  
 -31740, 244 NORMAL OPERATION  
 -31740, 225 MAGNIFIED SPRITES  
 -31740, 226 DOUBLE SIZED SPRITES  
 -31740, 227 MAGNIFIED DOUBLE SIZED SPRITES  
 -31740, 232 MULTICOLOR MODE (48 x 64 SQUARES)  
 -31744, A CURSOR FLASHING AND RESPONSE TONE RATE  
 (0 TO 255...1=NORMAL)  
 -31745, 0 FREEZE SCREEN THEN BLANK IT OUT (RESTORE BY  
 PRESSING FCTN-)  
 -31748, A CURSOR FLASHING AND RESPONSE TONE RATE  
 (0 TO 255...1=NORMAL)  
 -31788, 160 CLEAR SCREEN (MUST PRESS A KEY TO ACTIVATE)  
 -31788, 192 AUTO SPRITE MOTION AND SOUND OFF  
 -31788, 224 NORMAL OPERATION  
 -31788, 225 MAGNIFIED SPRITES  
 -31788, 226 DOUBLE SIXED SPRITES  
 -31788, 227 MAGNIFIED AND DOUBLE SIZED SPRITES  
 -31788, 232 MULTICOLOR MODE (48 x 64 SQUARES)  
 -31794, A CALL SOUND TIMER LOCATION (COUNTS 255 TO 0)  
 -31803, 35 QUIT TO TITLE SCREEN  
 -31804, A, B RETURN TO TITLE SCREEN (USE PEEK (2, A, B))  
 -31804, A CURSOR FLASH RATE (0 TO 255)  
 -31804, 160 RESTART PROGRAM FROM MODULE  
 -31806, 0 NORMAL OPERATION  
 -31806, 16 DISABLE QUIT KEY (FCTN =)  
 -31806, 32 DISABLE AUTO SOUND PROCESSING, LEAVES SOUND  
 ON FOREVER  
 -31806, 48 DISABLE SOUND AND QUIT KEY  
 -31806, 64 DISABLE AUTO SPRITE MOTION  
 -31806, 80 DISABLE SPRITES AND QUIT KEY  
 -31806, 96 DISABLE SPRITES AND SOUND

-31806,128      DISABLE SPRITES, QUIT KEY, AND SOUND  
 -31806,129      TURN'S OFF ALL THE ABOVE (31806'S)  
 -31808,A,B,      PEEK TO DOUBLE RANDOM NUMBERS (0 TO 255)  
                   NEED "RANDOMIZE"  
 -31848,A        IF A=170 THEN CALL INIT HAS BEEN EXECUTED  
 -31860,4        GO FROM XB TO BASIC ("NEW" NEEDED)  
 -31860,8        AUTO RUN OF DSK1.LOAD  
 -31862,128      RESTARTS XB AND "RUNS" DSK1.LOAD  
 -31863,A        IF A=231 THEN 32K IS PRESENT  
 -31866,A,B      END OF CPU PROGRAM ADDRESS (A6+B) OR (A6+B  
 -31866,A,B      A6+B/41023 = FREE PROGRAM SPACE IN HIGH  
                   MEMORY  
 -31866,33,0     ADD 8K TO EXPANSION SIZE  
 -31866,A        REDUCE ACCESS TO 32K (1-159) FIRST BASIC  
                   TOKEN  
 -31868,0        NO "RUN" OR "LIST" AFTER FCTN 4 IS USED  
 -31868,0,0      THEN RUN"DSK#.XXXX" TURNS OFF 32K EXPANSION  
 -31868,255,231 THEN RUN"DSK#.XXXX" TURNS ON 32K EXPANSION  
 -31877,3 TO 30 SCREEN COLUMN TO START AT WITH A,"PRINT"  
 -31877,A        VDP STATUS REGISTER A=128, 60Hz VDP  
                   INTERRUPT, A=32 = SPRITE COINCIDENCE, A=64  
                   = 5 SPRITES ON A LINE  
 -31878,0        BRINGS ALL MOVING SPRITES TO IMMEDIATE STOP  
                   PLACING A VALUE HERE FROM 1 TO 28 ALLOWS  
                   ONLY THE SPRITE NUMBERS EQUAL TO OR LESS  
                   THAN THAT NUMBER TO HAVE AUTOMOTION, 36 =  
                   INVISIBLE CURSOR  
 -31879,A        TIMER FOR VDP INTERRUPTS EVERY 1/60 SEC.  
                   (0 TO 255)  
 -31880,A        RANDOM NUMBER (0 TO 99) NEED "RANDOMIZE"  
 -31884,A        CHANGE KEYBOARD MODE (0 TO 5) SAME AS CALL  
                   KEY(A,K,S)  
 -31887,A        VDP STATUS REGISTER, A32=SPRITE COINCIDENCE  
                   A64=FIVE SPRITES ON A LINE, BIT 0=THE 60Hz  
                   INTERRUPT, BIT 1=(64) IF MORE THAN 4  
                   SPRITES IN A ROW, BIT 2=(32) IF THERE IS A  
                   SPRITE COINCIDENCE, BIT 3-7 = CONTAINS THE  
                   HEX # OF THE FIFTH SPRITE IN A ROW (BIT 1  
                   MUST BE ON)  
 -31888,55,215    ENABLE ALL DISK DRIVES (USE "NEW" TO FREE)  
 -31888,57,221    CALL FILES(2)  
 -31888,59,227    CALL FILES(1)  
 -31888,63,255    DISABLE ALL DISK DRIVES (USE "NEW" TO FREE  
                   DRIVES)  
 -31931,0        REMOVE XB PROTECTION  
 -31931,2        SET "ON WARNING NEXT" COMMAND  
 -31931,4        SET "ON WARNING STOP" COMMAND  
 -31931,14       SET "UNTRACE" COMMAND  
 -31931,15       SET "UNTRACE" AND "NUM" COMMANDS



-31931, 16 SET "TRACE" COMMAND  
 -31931, 64 SET "ON BREAK NEXT" COMMAND  
 -31931, 120 RESULTS IN XB \* DONE \*  
 -31931, 128 ENABLES XB PROTECTION  
 -31932, 0 REMOVE READY STOPS EXECUTION  
 -31936, A, B  $A6+B-2487$  = EXACT AMOUNT OF FREE STACK  
 SPACE WHILE THE PROGRAM IS RUNNING. DOES  
 NOT COUNT THE GARBAGE COLLECTION AREA AS  
 USED  
 -31950, A, B  $A6+B$  = END OF LINE NUMBER TABLE. POINTS TO  
 THE LAST BYTE OF THE LINE NUMBER TABLE  
 -31952, A  $A=55$  THE 32K MEMORY OFF ELSE ON  
 -31952, A, B  $A6+B$  = START OF LINE NUMBER TABLE. WITHOUT  
 MEMORY EXPANSION, THIS POINTS INTO VDP RAM.  
 WITH MEMORY EXPANSION, THIS POINTS INTO  
 HIGH MEMORY EXPANSION  
 -31954, A, B  $A6+B$  = THE MEMORY ADDRESS OF THE POINTER TO  
 THE CURRENT LINE BEING EXECUTED  
 -31954, A, B CALL PEEK( $A6+B-65536, C, D$ )::  $C6+D$  = START  
 ADDRESS OF CURRENT PROGRAM LINE BEING  
 EXECUTED  
 -31961, 51 RETURN TO TITLE SCREEN  
 -31961, 149 RESTART XB AND RUN "DSK1.LOAD"  
 -31962, 32 RETURN TO TITLE SCREEN DOES NOT CLOSE OPEN  
 FILES  
 -31962, 33, 111 GOES DIRECTLY INTO BASIC  
 -31962, 99 DELETES PROGRAM FROM MEMORY "NEW"  
 -31962, 99, 114 RESTARTS XB AND RUNS "DSK1.LOAD"  
 -31962, 100, 155 EXECUTES "RUN" COMMAND  
 -31962, 100, 124 EXECUTES "NEW" COMMAND  
 -31962, 100, 126 EXECUTES "CON" COMMAND - FROM COMMAND MODE  
 ONLY  
 -31962, 100, 128 EXECUTES "LIST" COMMAND - FROM COMMAND MODE  
 ONLY  
 -31962, 100, 130 EXECUTES "BYE" COMMAND - CLOSSES ALL OPEN  
 FILES  
 -31962, 100, 132 EXECUTES DEFAULT "NUM" COMMAND - WHEN THE  
 PROGRAM RUNNING ENDS. THE 100 LINE WILL  
 CONTAIN GARBAGE, SO, JUST PUT A REM THERE.  
 -31962, 100, 136 EXECUTES "RES" COMMAND  
 -31962, 101, 190 EXECUTES "LIST" COMMAND - FROM COMMAND MODE  
 ONLY. SAME AS -31962, 100, 128  
 -31962, 160, 000 GENERATES COLORFUL TITLE SCREEN  
 -31962, 160, 04 EXECUTES "RUN" COMMAND WITHOUT PRE-SCAN.  
 THIS IS FASTER THAN A "RUN" IN A PROGRAM  
 -31962, 255 RESTART XB AND RUN "DSK1.LOAD"  
 -31974, A, B END OF VDP STACK ADDRESS ( $A6+B$ )  
 -31974, A, B RUNNING FREE SPACE IN VDP RAM ( $A6+B-2487$ )  
 NOTE: FOR-NEXT LOOPS, GOSUBS, ETC. ALL USE

RUNNING SPACE, GARBAGE COLLECTION RECOVERS IT. THIS PEEK WILL NOT ALWAYS RETURN THE EXACT AMOUNT OF FREE VDP SPACE UNLESS A GARBAGE COLLECTION HAS JUST BEEN DONE. (SIZE PERFORMS GARBAGE COLLECTION BEFORE REPORTING STACK FREE SPACE.)

-31982,A LAST LINE ADDRESS

-32112,B SEARCHES DISK DRIVE FOR (?) UNKNOWN

-32114,2 RANDOM CHARACTERS PRINTED TO THE SCREEN

-32114,13 SCREEN GOES CRAZY

-32114,119 PRINT LINES

-32116,2 RANDOM CHARACTERS PRINTED TO THE SCREEN

-32116,4 XB TO BASIC

-32187,0 DISABLE XB PROTECTION

-32187,2 SET "ON WARNING NEXT" COMMAND

-32187,4 SET "ON WARNING STOP" COMMAND

-32187,9 SET "O" LINE NUMBER

-32187,14 SET "UNTRACE" COMMAND

-32187,15 SET "UNTRACE" AND "NUM" COMMANDS

-32187,16 SET "TRACE" COMMAND

32187,64 SET "ON BREAK NEXT" COMMAND

-32187,128 ENABLE XB PROTECTION

32188,1 CHANGES COLOR AND RECEIVE SYNTAX ERROR

32188,127 CHANGES COLOR AND RECEIVE BREAKPOINT

32280,0 SET MULTICOLOR MODE

-32352,0 SET CLEAR MODE

-32572,1 STRANGE EFFECTS USING KEYBOARD

-32572,128 DISABLE KEYBOARD

-32630,128 RESET TO TITLE SCREEN

-32699,0 DISABLE XB PROTECTION

-32699,2 SET "ON WARNING NEXT" COMMAND

-32699,4 SET "ON WARNING STOP" COMMAND

-32699,14 SET "UNTRACE" COMMAND

-32699,15 SET "UNTRACE" AND "NUM" COMMANDS

-32699,16 SET "TRACE" COMMAND

-32699,64 SET "ON BREAK NEXT" COMMAND

-32699,120 SET "UNTRACE" COMMAND

-32699,128 ENABLE XB PROTECTION

-32700,0 CLEAR SCREEN FOR A MOMENT

-32729,0 RUN "DSK1.LOAD"

-32730,32 RESET TO TITLE SCREEN

-32766,0 SET BIT MAP MODE

-32768,0 SET NORMAL MODE

-32961,51 RESET TO TITLE SCREEN

-32961,149 SET "ON BREAK GOTO" LOCKS SYSTEM

THE FOLLOWING LOADS REQUIRE E/A OR MM

ADDRESS	VALUE(S)	POKEV	DESCRIPTION
784,	A		USE POKEV(784,A) (WHERE A IS 16 TO 31). CHANGES CURSOR BACKGROUND COLOR
-24574,	8		I THINK THIS ALLOWS THE MINI-MEM TO USE THE 24K FOR STORAGE
-30945,	0		WHITE EDGES
-31888,	63,255		DISABLES DISK DRIVES. THIS IS THE SAME AS CALL FILES(0) -- USE BYE TO RESET
-32272,	0		TEXT MODE (-32270,0,"",-39945,0 40 COLUMNS USE -32768,0 TO RESET)
-32280,	0		SET MULTICOLOR MODE
-32352,	0		MAKES SCREEN TRANSPARENT
-32352,	107		WILL BLANK SCREEN, PRESS ANY KEY TO RESTORE
-32766,	0		BIT MAP MODE
-32768,	0		GRAPHIC NORMAL MODE

PASCAL LOADS

ADDRESS	VALUE(S)	DESCRIPTION
14586,	0,0	THIS ALLOWS YOU TO DO A "RUN-TIME WARM START" FROM BASIC TO PASCAL

THE FOLLOWING IS ANOTHER EXCERPT FROM THE ALOHA 99/4A NEWSLETTER, BY BRYAN WILCUTT

24K OF STORAGE

IF YOU NEED TO WORK WITH QUITE A BIT OF DATA OR WOULD LIKE TO CHANGE PROGRAMS, BUT SAVE THE DATA AFTER YOU PRESS "QUIT", THEN YOU CAN SET UP THE 24K OF HIGH MEMORY IN THE PEB AS A SINGLE DATA FILE CALLED "EXPMEM2". YOU OPEN THIS FILE JUST AS YOU WOULD A DISK FILE WITH ONE EXCEPTION - YOU MUST PRECEED THE OPEN STATEMENT WITH A CALL LOAD TO THE LOCATION -24574 AS FOLLOWS:

- FOR INT/VAR FILES - 24
- FOR DIS/VAR FILES - 16
- FOR INT/FIX FILES - 8
- FOR DIS/FIX FILES - 0

EXAMPLE:

IF YOU WANT TO OPEN UP THE EXPANSION MEMORY FOR DISPLAY,VARIABLE,80 FILES, THIS IS WHAT TO DO:

```

100 CALL INIT
110 CALL LOAD(-24574,16)
120 OPEN #1:"EXPMEM2",RELATIVE,UPDATE,DISPLAY,VARIABLE 80

```

THEN CONTINUE AS YOU NORMALLY WOULD.

OFFICER NOMINATIONS

The following is a list of those who have been nominated for office in our group from last month. You will have a chance to add your own nominations at the November meeting.

- President: Chuck Wynne  
Rick Lewis
- Vice President: Tom Wynne  
Chuck Wynne  
Gene Christiansen  
Richard Martin
- Secretary: Dennis Wood
- Librarian: John Ueland  
Bob Seaman  
Dave Powell
- Treasurer: Don Kolwitz
- Newsletter Editor Gene Christiansen  
Tom Wynne  
Barbara Wiederhold

The following have volunteered to serve on the Library Committee:

- Bruce Gardiner Allan Weidenheimer
- Steve Mastel Harley Doak
- Dick Hagen Kenneth Crandall

We are still looking for volunteers for the Newsletter Committee. This group will assist in the selection of the articles and also in the actual preparation of the TIPS 99 Newsletter. Sign up TODAY!!!