

(102) 8403



# CROSSROADS 99'ER USER GROUP

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Meeting      May 14, 1984      7:30 P.M.      York Middle School Rm. 300

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Vol II No. 5      P.O. Box 203      York, NE 68467

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President	Vice Pres.	Sec./Treas.	Prog. Chm.	Lib. Chm.
Bill Hardy	Dave Rich	John Mohning	Pat Pfeifer	John Linn

### PRESIDENTS CORNER:

The 99/4A, is a very powerful computer, because of it's design several capabilities can not be used until the system is expanded. This limits the user programs on command modules or programs written in Basic. The addition of command modules like mini memory, extended Basic and the terminal emulator the capabilities are only slightly increased. To use the 99/4A to the maximum it must be expanded with the 32K expansion memory, Rs-232, and disk system. The 32K memory with extended Basic allows RAM memory to be changed and to load and execute assembly language programs. The RS-232 with the terminal Emulator and modem turns the computer into a terminal to communicate over telephone lines with another computer. This month we will show ways to expand the computer. At present TI hardware is available but it will become harder to obtain. Making third party manufacture more important.

The third party manufactures will discontinue developing new modules and manufacturing --- a few have already started withdrawal. The price's of command modules are expensive. Because of this I feel it's worth while to expand the 99/4A, with extended Basic and 32K memory, or the Mini-Memory module, machine language programs can be loaded and executed. Programs of the same quality as the modules can be run. There are a few programs written for the Mini-Memory, but most of the programs are for Basic or Extended Basic. Because Basic even Extended Basic is slow comparititly, the games are not fast moving.

Next month I will cover ways this type of program can be generated.

### April 9, 1984 Meeting

1. Business -- John Linn, Library Chairman, will set up procedure to have User's Group Library in the City Library. It will then belong to the City Library.
2. Comments on Newsletter.
3. The Logo contest was extended two months.
4. Dave Roelfs demonstrated the command module.  
"Facemaker! Thanks Dave
5. Sheila Epke demonstrated a module that uses the port on the side (same port as is used by The Speech Synat). The game was Miner 2049'er by Tigervision. It appeared to be a very good game, the short time it was viewed. Since it uses the side port, as a precaution, turn the computer off before insertion or removing the module. The module can only be used on the black TI 99/4A computers.  
Thanks Sheila
6. Basic Programing was not covered because of lack of time. Sorry Pat.

Agenda for May 14, 1984 Meeting

1. Business
2. Questions & comments on Newsletter.
3. Basic Programing - "User's Reference Guide" starting on page II-43 to II-74

Logo Contest

The Logo contest was not held due to few entries. We will try again at the June meeting. So start designing and programing the computer for the June contest.

## CASSETTE #2

Last month we discussed how data or information could be stored on cassettes and later read back into the computer. This same procedure is used to store data or information on a disk. One drawback of using a cassette it is slow. When data is stored or loaded time may become long. There are ways of shortening the procedure.

One is to use one options in the OPEN Statement, file-type (DISPLAY or INTERNAL). When not specified the computer assumes DISPLAY format. If the data or information goes to a printer you want it to be DISPLAY, if it was INTERNAL you would not be able to read or understand it.

Another is the FIXED, option if we use FIXED 192, the maximum number of positions that can be recorded in a block. This will reduce the number of times the cassette recorder is turned off and on. It may not be the best size, as it depends on the data being stored.

When data is stored (PRINT #2:) we must calculate how many positions the data requires. Each numeric variable uses 9 positions. If the variable A is stored it takes 9 position even if A only equals 1. Therefore 21 variables can be stored in one block. If string variables are being store the numbers of positions require is one more then the letter, space commas, in the string variable, if A\$= "TEXAS INSTRUMENTS" 18 positions are needed. All variables in a print statement is recorded in a block, if there is a mixer numeric and string variables add up the number of positions each variable requires and check to see if it exceeds the amount specified in the OPEN statement. A semicolon at the end of a Print statement leaves the block open so variables in the next Print statement will be added to the block.

The following example shows some of the points

```
10 DIM A (25)
20 OPEN # 1: "CSI", INTERNAL, OUTPUT, FIXED 192
30 FOR I = 1 to 21
40 PRINT #1: A(I)
50 NEXT I
60 CLOSE #1
```

This requires over 3 minutes to run as 21 blocks are recorded. Only 9 positions of the 192 position block are used.

Change the following lines

```
30 FOR I=1 to 20
40 PRINT #1: A (I);
50 NEXT I
55 PRINT #1: A (I)
60 CLOSE #1
```

This requires only about 20 seconds to run. Only one block of 192 positions is recorded.

To reduce the time required to record and load data use the largest block size and use all the positions in the block.

### Expanding the 99/4A

There are several ways to expand the 99/4A, TI developed two ways, Peripheral Expansion box and the Hex Bus system. The drawing included was taken from TENEX's "THE EVERYTHING BOOK", it shows the two expansion systems. I have only seen the Hex-Bus advertised not mentioned in articles. The expansion box is the most popular and is still available. The User's Groups received the enclosed letter from TI. Since TI is not manufacturing the box, they will not be available later. TI included in the letter a list of manufacturers of hardware for the TI 99/4A. The list may not be complete and there maybe others enter the market.

There are three types of third party hardware, 1. Plug in TI expansion box, 2. Stand alone that plugs into side port and 3. Third party expansion box.

The stand alone units allows expansion without the expense of the expansion box. The units cost more then the plug in modules so if several units are added, the difference may pay for the box. Also the units may use power from the computer which may overload the power system for the computer. If only 32K memory or RS232 is added, this maybe the best way. Percom Data makes a stand alone disk drive with disk control if only a disk system is added.

The best way to expand is with an expansion box, TI or Third party everything is in one box. TI has it's own power supply, large enough to handle the full box. The inital cost is high but it is an orderly expansion. CorComp has the only expansion box that I am aware of at this time. They have done somethings different then TI this may be good as it adds capabilities to the computer but may cause problems in some other areas. Only after it has been on the market for awhile, it can be evaluated.

If you have future plans for the 99/4A, start looking at what is available and decide the way you would like to expand and how much.

### RTTY

For people who are familiar with what RTTY means, it means Radio tele type. It is used by HAM operators to send messages over the air using their HAM Radios. The 99/4A can be used to send and receive the messages. With the terminal Emulator it would be easy to send and receive messages. A RS-232 for the 99 would be needed since most of the interfaces to the radio use it. Kantronics makes a cartridge for the 99 for transmission of CW/RTTY/ASCII.

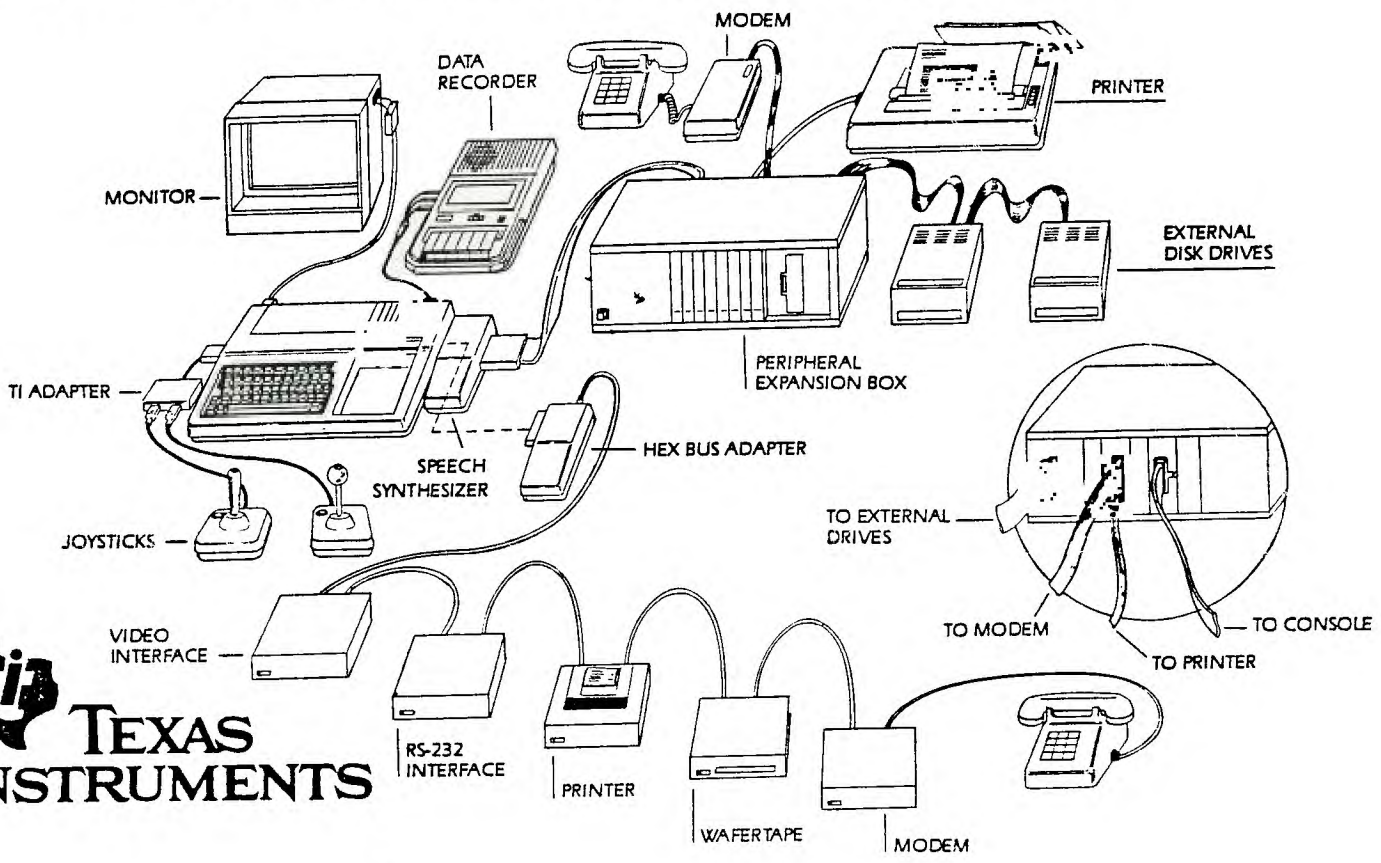
If you are interested contact:

T.I. GROUP OF RICHMOND (TIGOR)  
200 Dundee  
Richmond, Virginia 23225

804-353-5400 -- 8:00 a.m. to 5:00 p.m. EST taken from 99'ers Users Group Association #5.

Eric Sundberg  
KA4T  
SSB: 20 Meter

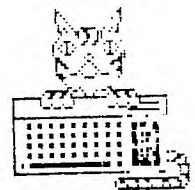
# YOUR 99/4A SYSTEM AT A GLANCE....



**TEXAS INSTRUMENTS**

## TIPS FROM THE TIGERCUB NO. 11

**TIGERCUB SOFTWARE**  
156 COLLINGWOOD AVE.  
COLUMBUS, OHIO 43213



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LAST MONTH'S CHALLENGE WAS TO UNFURL THE U.S. FLAG (WITH 49 STARS), FROM THE MAST OUT, IN 2 LINES OF EXTENDED BASIC.

```

100 CALL CLEAR :: CALL COLOR
(2,16,5,3,16,16,4,7,7):: A$(
1)="*****080808" :: A$(2)=
RPT$("80",7):: CALL CHAR(33,
RPT$("01",8)):: CALL VCHAR(4
,4,33,20)
110 FOR C=5 TO 22 :: X=1+ABS
(C>11):: FOR T=1 TO 13 :: CA
LL VCHAR(5+T,C,ASC(SEG$(A$(X
),T,1))):: NEXT T :: NEXT C
:: GOTO 110
    
```

*If you have items that you would like to trade, buy or sell, let me know and we will start an area in the newsletter for that. This is a service of the User's Group and no fee is charged.*



RCV  
April 1, 1984

March 28, 1984

Crossroads 99'er Computer Group  
511 Iowa Street  
York, NE 68467

Dear 99/4A Owners:

I would like to take this opportunity to thank each of you for your loyal support of our products, and also to pass on information concerning a change in the services we have been offering to our customers.

Effective April 2, 1984, Texas Instruments will no longer sell products for the TI-99/4A Home Computer. As you may recall, when we announced our withdrawal from the home computer market we said we were committed to providing product sales support until such time as another means of support could be identified.

Arrangements have now been concluded to provide availability for all existing software through an organization separate from Texas Instruments. The Triton company is a well-established direct-response/mail order firm, and we are confident that they are capable of providing this continued support. They may be contacted at:

Triton  
P.O. Box 8123  
San Francisco, CA 94128

You may also call them toll-free at 800/227-6900 in the continental United States or at 800/632-4777 in California.

Although availability may be limited in certain areas, you should also check with local Texas Instruments retailers if you wish to purchase additional software titles. Many titles may still be obtained through these retailers.

At this time Texas Instruments peripherals and accessories are no longer in production and quantities are very limited. To further assist you we can now provide a listing of many third-party peripheral suppliers.

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Please keep in mind that while the enclosed list is not comprehensive and while we cannot assume responsibility for the quality or compatibility of any of these products, we do feel that it is a means for additional enhancement for your basic system.

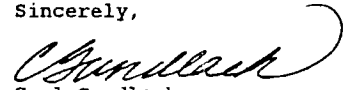
We do appreciate the understanding and patience you have shown in the past months. It has been a most difficult time for all of us, and we want you to know that we are still very much committed to providing continued support of the 99/4A product line, including in- and out-of-warranty repair capability, applications information and technical programming assistance.

Although we no longer formally coordinate TI Users Groups, we do assist new groups and maintain and make available an up-to-date group listing. In addition, we are interested in receiving newsletters and information on your current activities, as your participation makes our work that much easier.

I would like to again emphasize our appreciation of your support and interest in Texas Instruments. We are justifiably proud of our commitment to excellence in both our products and customer service. I hope that we continue to warrant your support, as we will make every effort to work with your group in the coming years.

If you have further questions or comments or should you require assistance, please contact us at the letterhead address.

Sincerely,

  
Carl Gundlach  
Manager, Consumer Services

/das  
Enclosure

# TEXAS INSTRUMENTS



TI-99/4A Home Computer  
Third-Party Peripheral Suppliers  
Effective March 23, 1984

MANUFACTURERS OF THE FOLLOWING ITEMS HAVE REPRESENTED THAT THEIR PRODUCTS ARE COMPATIBLE WITH THE TI-99/4A. HOWEVER, TEXAS INSTRUMENTS ASSUMES NO RESPONSIBILITY FOR THE QUALITY OR COMPATIBILITY OF ANY OF THESE PRODUCTS.

#### FLOPPY DISK DRIVES (Stand-alone:)

Percom Data Cor., 11220 Pagemill Road, Dallas, TX  
75243 Phone Number: 214/340-5800

#### (Utilizing TI Disk Controller:)

Software Support, Inc., One Edgell Road, Farmingham,  
MA 01701 Phone Number: 617/872-9090

International 99/4 Users-Group, Inc., P.O. Box 67,  
Bethany, OK 73008 Phone Number: 405/948-1023

Western Micro Systems, 2760 S. Havana, Suite S,  
Aurora, CO 80014 Phone Number: 303/337-5909

#### WINCHESTER DISK SYSTEMS :

Myarc, Inc., P.O. Box 140, Basking Ridge, NJ 07920

#### STAND-ALONE RAM EXPANSIONS

Ultracomp Systems, 1001 Ogden Avenue #5, Downers Grove,  
IL 60515

Doryt Systems, Inc., 14 Glen Street, Glen Cove, NY  
11542

Tachyon Systems, 5125 S. Westwind Way, Kearns, UT  
84118

Intellitec Computer Systems, 2337 Bonanza Court,  
Riverton, UT 84065

#### RAM EXPANSION CARDS FOR PERIPHERAL BOX

Intellitec Computer Systems, 2337 Bonanza Court,  
Riverton, UT 84065  
Foundation, 74 Claire Way, Tiburon, CA 94920

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#### STAND-ALONE RS-232 INTERFACES

Ultracomp Systems, 1001 Ogden Avenue #5, Downers Grove,  
IL 60515

Intellitec Computer Systems, 2337 Bonanza Court,  
Riverton, UT 84065

Model Masters, Inc., 22411 Mountain Laurel Way,  
Diamond Bar, CA 91765

#### RS-232 INTERFACE CARD FOR PERIPHERAL BOX

Information Associates, P.O. Box 2207, Acworth, GA  
30101

#### STAND-ALONE PARALLEL (CENTRONICS-COMPATIBLE PRINTER) INTERFACES

Intellitec Computer Systems, 2337 Bonanza Court,  
Riverton, UT 84065

#### PRINTERS

There are numerous companies advertising printers which can be used specifically with the TI-99/4A, but in reality, almost any printer which can be interfaced via the RS-232 serial or Centronics parallel methods can be used by means of the appropriate cable obtainable from one or more of the vendors in the "CABLES, SUPPLIES, & MISCELLANEOUS" section below.

#### MONITORS

Vid-Com, 1018 E. Philadelphia St., York, PA 17403

Any video display which can accept NTSC composite video or VHF channel 3 or 4 RF can be used.

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## JOYSTICKS

Newport Controls, Bishop, CA 93514  
Nebulous Enterprises, P.O. Box 99, Swartz Creek,  
MI 48473  
Jackson Design, 12520 Ridgeton Dr., Lakeside, CA 92040  
Wico Corp., Consumer Div., 6400 W. Gross Point Road  
Niles, IL 60648

Several of the vendors in the "CABLES, SUPPLIES, & MISCELLANEOUS" section below after adaptors which can allow any Atari-compatible joystick to be used with the TI-99/4A.

## MODEMS

Anchor Automation, 6913 Valjean Ave., Van Nuys, CA  
91406

Any modem which can be interfaced via the RS-232 serial or Centronics parallel methods can be used by means of the appropriate cable obtainable from one of more of the vendors in the "CABLES, SUPPLIES, & MISCELLANEOUS" section below.

## BAR CODE READER

Databar Corp., Eden Prairie, MN 55344

## LIGHT GUN

Non-Polyoptics, 13721 Lynn Street #15, Woodbridge, VA  
22191

## KEYPAD

Computech Distributing, 209 E. Walnut, Springfield, MO  
65805

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## COOLING FAN

Reality Software, 4615 Kensington Dr., San Diego, CA  
92116

## CABLES, SUPPLIES, & MISCELLANEOUS

Vid-Com, 1018 E. Philadelphia St., York, PA 17403  
Tex-Comp, P.O. Box 33084, Granada Hills, CA 91344  
Danien Enterprises, Inc., P.O. Box 522036, Miami, FL  
33152  
Software Support, Inc., One Edgell Road, Framingham, MA  
01701  
99'er-Ware, P.O. Box 5537, Eugene, OR 97405  
Towertronics Inc., P.O. Box 18870, Fort Worth, TX  
76118  
Tenex Computer Marketing Systems, Box 6578, South Bend,  
IN 46660  
Denali Data Design, 1413 N. McKinley Ave., Oklahoma  
City, OK 73106  
Compro Systems, P.O. Box 33173, Cleveland, OH 44133  
Cintronics, 431 Ohio Pike #206C, Cincinnati, OH 45230  
Western Micro Systems, 2760 S. Havana, Suite 5, Aurora,  
CO 80014  
International 99/4 Users-Group, Inc., P.O. Box 67,  
Bethany, OK 73008

CROSSROADS 99'er User Group  
P.O. Box 293  
York, NE 68467



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Active Member - \$12/year or \$1.25/ mo.

Newsletter only - \$6/year or .50/mo.

Dues are from Jan. 1 to Dec. 31

Monthly dues figured for remaining number of month of calendar year