



# ROCKY MOUNTAIN 99'ers

## TIC TALK

VOL II, NO 10

DENVER, COLORADO USA

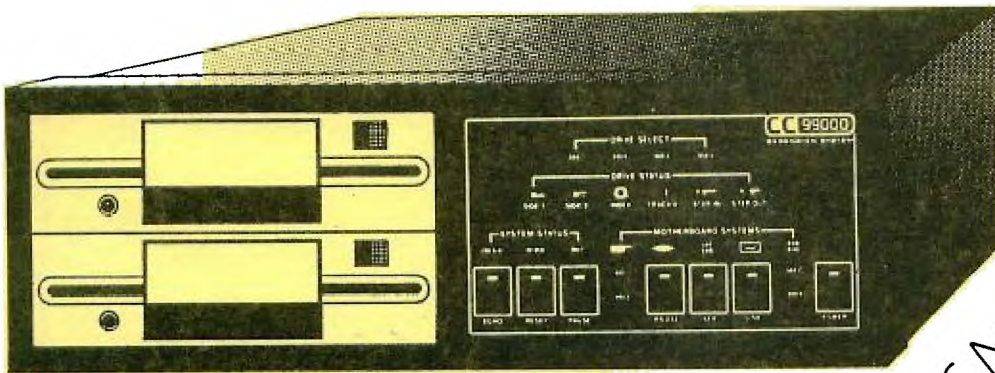
JUNE 1984

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### NEW PERIPHERAL EXPANSION BOX

You probably all know that CorComp has had their RS-232 and 32K Memory cards available for a few months now. They were to introduce their PES Box in March or April but as usual with new products it doesn't always work that way. It now looks like June/July as the available time table. The SRP, without the Disk Drive, looks like \$549.95. What you get will be the box with built-in RS-232 (2 serial 1 parallel ports), 32K Expansion RAM, and a Disk Controller which will handle up to 4 (four) Double-sided Double-density Drives. The Flex cable interface will be a small round cable that will hook to the side of the 99/4A via a small L type connector, unlike the large flat cable with TI's PES Box. The power supply is specially designed for low heat and high power. This power supply can easily handle the System Motherboard, 2 Slim Line Disk Drives and the future auxiliary cards that can be mounted to the motherboard. Like the TI PES Box the 99000 transmits the system status to the graphic display panel plus additional status functions. (cont. p2)



## 99000 Expansion System

### JUNE MEETING

JUNE 12

Jefferson County Fairgrounds

Auditorium 7:00 PM

6th Ave West to Indiana Ave.



JUNE 1984

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

## CorComp (cont.)

The size of the 99000 Expansion System is about 3/4 size of the TI PES Box. I haven't seen anything in writing but verbally I was told the System's power supply is capable of handling a hard disk drive.

The Disk Controller and the new Disk Controller Card will allow you to control up to 4 Double-sided Double-density disk drives which can be accessed by DSK1 or also in lower case as dsk1. You will be able to mix your drives i.e. half high with a full high and a Single-sided Double-density or even Double-sided Single-density. Total flexibility.

The formatted DS/DD disk will store 360K Bytes of information. With 4 DS/DD drives hooked up, the storage power adds up to 1.4 Megabytes of on line storage. And that is without a Hard Disk! The PR info states that in tests this disk controller will load files 2-4 times faster than the TI Disk Controller.

The Disk Manager program will come on a 5 1/4" floppy diskette and will have many new enhancements added to it over the Disk Manager cartridge. The Disk Controller also adds the following new commands and programming statements to the computer:

```
CALL PEEK (address,v,v,v,....v) peeks into CPU RAM
CALL POKE (address,dv,dv,....dv) pokes into CPU RAM
CALL PEEKV (address,v,v,v,....v) peeks into VDP RAM
CALL POKEV (address,dv,dv,...dv) pokes into VDP RAM
CALL MGR loads and runs the disk manager program.
CALL EXEC (address) Executes machine language code in ROM or RAM
CALL MOVEM (type#1-4, from address, to address, # of bytes to move)
    this will move blocks of memory from one location to another.
    type #1-4 can be numeric variable or direct number:
        1 = Move from VDP RAM to VDP RAM
        2 = Move from VDP RAM to CPU RAM
        3 = Move from CPU RAM or ROM to VDP RAM
        4 = Move from CPU RAM OR ROM to CPU RAM
```

Note: v can be a numeric variable or string variable!  
d can be a direct number or string!  
address can be a variable or direct number.  
single dimension numeric and string arrays may be used.  
numerics and strings can be mixed in the same CALL.

Lastly this Disk Controller has provisions for setting the head seek(step) times for all four of your drives. This will allow you to use some of the faster disk drives that are available.

## NEW 9900 MICRO-EXPANSION SYSTEM

CorComp's new Micro System is now available. You may start out with just the RS-232 and add the 32K Memory and Disk Controller chips later. This unit is approximately 5 1/2" x 5" x 3" or about the size of 2 Speech Synthesizers and plugs directly in the right side of the computer. The Disk Controller portion will have the same features as described above. SRP for the RS232 alone will be \$149.95. With the 32K Memory and Disk Controller the SRP will be \$399.95.

The RS-232 will allow one serial and one parallel ports. An optional chip can be added for the second serial port if needed. There is no power supply or place for a disk drive to be placed internally. The Micro System will handle 4 external drives with their own power supplies though.



# BULLETIN

Mike Holmes informed me, rather forcefully, that he didn't mind my mentioning the fact that he is SYSOP for the local bulletin board STARBOARD, but he was not to happy that I put his home phone number in our last Newsletter as the STARBOARD number. Before he beats on me again, please take down this number:

**STARBOARD - 455-3113**

Please everyone cross out the number printed in our MAY Newsletter before he works on my body again. You notice he went for the legs and left my arms and fingers alone so I could work on the Newsletter I suppose....

## TI-WRITER "BUG"

by Bob DeMars

For those of you who have advanced to the level of using this very powerful word processor provided by TI, some words of caution: there is a problem with the program, which appears without warning and without an error message given. However, you are likely to encounter the problem only if you are a fast typist.

When you are typing a line of text in the edit mode and reach the end of the line, the program automatically wraps around to the beginning of the next line. It also takes with it the first part of the last word you were typing on that line (if it was not a complete word) and moves it down to the beginning of the next line. As fast as this process is, it apparently is not fast enough because one or more characters may get lost in the process.

This occurs because the TI 99/4A does not have a "look-ahead" buffer for the keyboard. The program only goes to the "KSCAN" routine when it is ready to accept the next character. When the program is busy moving data, it doesn't return quickly enough to recognize your keystrokes.

Sometimes it helps if you put two or more spaces before the last word on a line, but the only sure way around the problem is to type more slowly when you near the end of each line.

\* From THE MSP 99 NEWSLETTER (Minneapolis/St. Paul) \*

# ANNOUNCEMENT

MEMBERSHIP ROSTER PRINT-OUT  
PRINTED IN ORDER OF ZIP CODES

There have been many requests for a list so one might find out who is a neighbor with a TI. Perhaps the list will develop in new friendships, create car pools, or assist in forming local interest groups. The list will be an insert which will be sent to other members only and not to other Users Groups or non-members. We want it clear, that it is forbidden to use the list for any commercial or non-club purposes.

99ers Club Membership Roster

Date: 05/12/84

Legend:

A = YOUTH

B = NORTH-EAST

C = NORTH-WEST

D = SOUTH-EAST

E = SOUTH-WEST

F = NEWSLETTER

Double Sided FORTH  
by J. W. Vincent

### Milwaukee Area 99/4 User Group

So you have double sided disk drives on your TI 99/4A. when you got your copy of TI FORTH from the user group you immediately tried copying it to a double sided disk using Disk Manager II, didn't you? Didn't work so hot did it? Well this article will show you what to do to make TI FORTH work with your double sided drives.

TI FORTH uses direct sector addressing to read/write screens to disk. Each screen is 1024 bytes or four single density sectors long. Manager module and normal file I/O for initial loading of the FORTH program, the FORTH disk uses the standard disk header and directory sectors. Since there are only three files on the disk, this means sectors zero through four are allocated to this overhead operation. The first file, FORTH (actually just a short assembly language loader program) begins in sector 22 (hex) as usual. It is followed by the actual FORTH program file which is also handled via normal I/O routines and occupies up to sector 4c. SYS-SCRNS takes up not only the disk, but also has an extent that takes up sectors 5 to 21 (hex).

Now since TI FORTH uses direct sector addressing, it expects screen 3 (the boot screen) to be in sectors to copy these three files from a disk. the Disk Manager is able to put the whole SYS-SCRNS file on disk contigously. No extents are required, thus what was at sector 5



to 21 is now at sector 168 to 184. Is it any wonder FORTH acts strange? The boot screen only contains gargage!

to remedy this situation we must copy a single sided disk, sector for sector, to a double sided one, and then doctor sectors zero and four to comply with the Disk Manager's standards. Then to use the extra capacity we will update a couple screens. Your first step however, must be to initialize a double sided disk using the Disk Manager II. Next load FORTH and set DISK\_LO to zero. Load the \_copy screens and use the command FORTH-COPY to dupe your single sided FORTH to the double sided disk. If you don't have two drives, use Disk Manager to copy all three files but then use FORTH to copy screens 1 thru 9. Here's the technique:

n BLOCK UPDATE where n is screen number to be read from old disk

FLUSH writes screen to new disk, moves up to 5 screens at a time

Now, edit screen 3 to add the following commands:

180 DISK\_SIZE ! (supports double sided capacity per disk)

360 DISK\_HI ! (supports two double sided drives)

Next time you boot FORTH it will recognize screen 175 as part of disk 1 and screen 185 as part of disk 2. Now let's fix the commands in the \_copy screens. Edit screen 39. The value 90 appears once in DTEST and twice in FORTH-COPY. Change all three occurrence to 180. Next edit screen 40 with the following:

Line Current Change to

```
3 168      2D0
5 2000     2028
5 12 + 26  12 + 0201 SWAP !
```

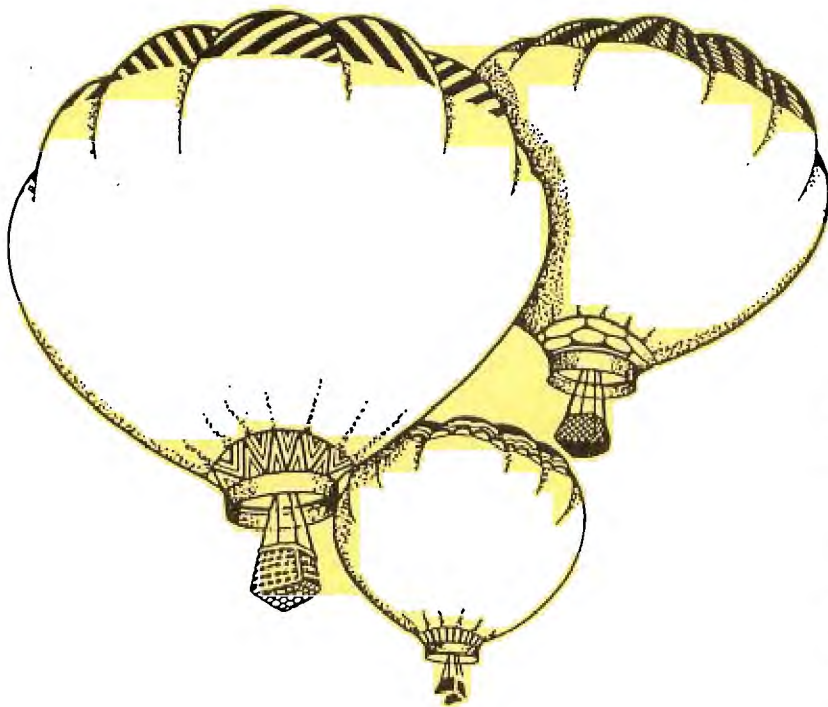
DUP 14 + 24

```
10 165      2CD
13 4016     802C
```

Now let's make our FORTH disk compatible with Disk Manager II. Here's the word you need to do it:

```
HEX
: DOUBLE-FORTH 0 BLOCK UPDATE DUP A
+ 2D0 SWAP ! DUP 10 +2028 SWAP ! 12
+ 0201 SWAP ! 1 BLOCK UPDATE DUP E +
2A0 SWAP ! DUP 1C + 4D20 SWAP ! DUP
1E + 2805 SWAP ! 20 + F029 SWAP !
FLUSH ;
DECIMAL DOUBLE-FORTH
```

Now that you have full use of your double sided drives I'd like to issue a couple of challenges. 1. Figure out how to alter the FORTH command FORMAT-DISK to format a double sided disk. 2. Alter FORTH to support CorComp's double density Good Luck!



## HELPFUL HINTS FROM BIT BRAIN

**\*\*Milwaukee Area 99/4 User Group\*\***  
Ever needed more memory and found that CALL FILES(1) just simply was not good enough?. Well now you may have an alternative. A new "poke" has been discovered that could help out: CALL LOAD(-31888,63,215). This new poke seems to disable all disk capabilities. While it's probably wise to follow this with the "NEW" command, We have not, as of yet, discovered any ill effects that this command has on a program already in memory. In testing with this command, we have found that it provides 506 bytes more VDP memory space than does the CALL FILES(1) command - for a total of 2048 extra bytes. Those of you having the 32K Memory Expansion AND Extended BASIC should note that neither CALL FILES nor this new "wonder LOAD" will afford you any additional program space, since only string space is maintained in VDP RAM by Extended BASIC.

Here's something for those of you who have a Speech Synthesizer and a Terminal Emulator Module. While in BASIC and with module inserted:

```
LIST "SPEECH":sssss-eeee
```

Where sssss = Starting line #

eeee = The ending line #

This will cause your 99/4A to speak an entire BASIC listing out to you.

Here's one for all of the TI Writer users. Next time you prepare to run the "Formatter" to print your document, try entering a disk device and file name (e.g. DSK1.ANYTHING) when prompted for the "print device name". This little "trick" will cause the output from the Formatter to be directed to disk, rather than to your printer. By using the Text Editor facility of TI Writer, you can then edit your "print file" to see how it will look when printed, or to remove undesired page and/or line feeds. To print your document, use the "print file" option. All of the printer control characters that were imbedded in the text will be passed on to, and recognized by, your printer.

Rocky Mountain 99'ers

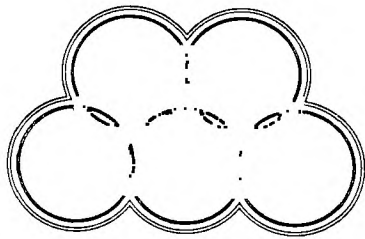
FOR SALE - Volkmodem - compatible with 99/4(A) - must have RS-232 will include cable and battery - never used...\$50 firm - contact John McDonald 751-9633

<<<< DISPLAY ADS >>>>

RATES: 10 in X 7.5 in - \$30.00 ALL DISPLAY ADDS must be camera ready and must be received before the 20th of the month and accompanied by a check made out to the ROCKY MOUNTAIN 99ers P.O. Box 3400, Littleton, CO 80161. Since the Club is a non-profit organization all money collected for advertizing goes toward the publishing costs of this newsletter.

<<<< WANT AD RATES >>>>

MEMBERS - FREE (25 word max) We must have your add by the 20th of the month to assure insertion in the next issue. Call 979-6677 or mail to BOX 3400 Littleton, CO 80161. NON-MEMBERS must use DISPLAY ADS!



REMINDER

Bought your TI-99/4A before October 31, 1983 ? If so, you can send for a free "Teach Yourself BASIC" cassette tape from T.I. Before October 31, 1983. T.I. offered a free course or the cassette tape. The course has been discontinued but you can still call 1-800-TI-CARES to make arrangements to get the program tape.

Rocky Mountain 99'ers

TIC TALK

This publication is printed monthly for the benifit of the membership of the Rocky Mountain 99'ers Computer Club. The Club and the paper are not for the benifit nor backed by any commercial enterprize. Both are non-profit in nature and are for the sole purpose of computer education. Any fees collected are used to defray any cost to maintain the organization. Neither the paper nor the Club have any affiliation with Texas Instruments. Any statements published in this paper are not necessarily the opinion of the membership.

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