

# NEWSNET99ER

VOL 8 NUM 4

APRIL 1990

**NEXT MEETING :**  
**SATURDAY**  
**MAY 5TH**

9:30 AM at the  
NRH Community Center  
Loop 820 at Rufe Snow Dr.

## CLUB OFFICERS

James Crosson	President
Tom Collins	Vice Pres
Lee DeForest	Treasurer
Charles Bathman	Secretary
Barbara Massey	NL Editor
Tom Collins	BBS Sysop

NET99ER BBS 300/1200/2400 7E1 24HRS  
**457 7043**

Newsletter of the North-East  
Tarrant County TI-99/4a and  
Myarc 9640 Computer Users Gr.



NET99ER HCUG  
P.O. BOX 534  
HURST, TX. 76053



DALLAS TI HOME COMPUTER GROUP  
P.O. Box 29365  
DALLAS, TX 75229  
EXCHANGE

-----Net99er Officers-----

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 Vice President: Tom Collins (817) 738-2428 MC-232653  
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 Treasurer: Lee Deforest (817) 237-9746  
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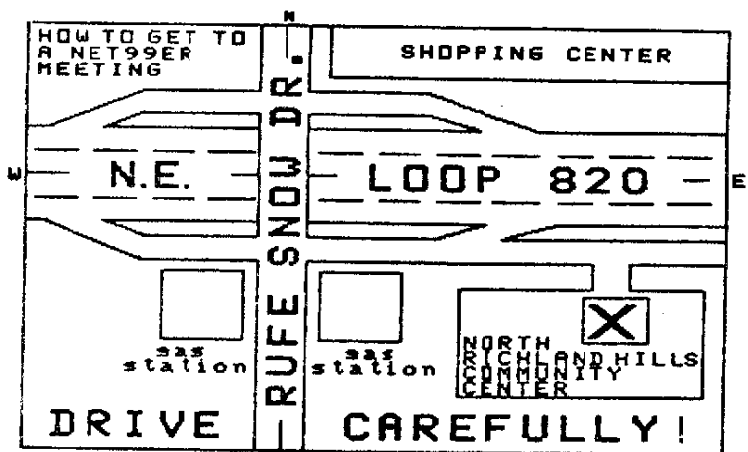
-----Net99er Library Staff-----

Chief Librarian: Ken Dominiec (817) 656-8076  
 Lending Librarian: Joe Torres (817) 838-8460  
 Cassette Librarian: James Crosson (817) 498-8746 MC-167788  
 Newsletter Librarian: JoNell Thompson (817) 237-9447

-----GENERAL NOTES and INFORMATION-----

Phone numbers listed are home phone numbers. Please call at reasonable hours and not later than 9 pm at night unless prior arrangements have been made. If you have a question late at night, Barbara Massey stays up late and you can call her up to midnight. The MC-numbers are StarText mail codes.

The Net99ers meet the first Saturday of every month at the North Richland Hills Community Center. The meeting begins at 9:30 am and ends around noon. Visitors are welcome! Bring a friend! NRCC is located at the Rufe Snow exit on NE Loop 820.



-----THE PRÉZ SEZ-----

If you were to judge the weather of the future by the weather that we are having now, well, it would seem that it is going to be a hot one, however, according to the weather man, just wait a minute it will get cooler, but be not confused, the next meeting of the NET99er will be Saturday May 5, 1990 at 9:30 a.m. in the N.R.Hills Community Center, just off Rufe Snow and 820 Loop.

I know this weather is strange, one minute it is cold and the next minute it's boiling, but so also goes the hardware and software development. Last month it seemed that there was a land slid of new stuff coming out for the 4A and the 9640, but this month it seems to have gone into hiding. It seems that not only is the weather confused, but certainly I am confused, actually when I was nominated for the President's position, I was just asking directions to the water fountain and found more than I had bargained for, I mean just for a drink of water.

Actually this month and the next few months look fairly interesting, Lee De Forest had volunteered to do a demo on Disk Utilities 4.12, which is one of the best sector editing programs I know of, yet it does a lot more than that, so just stick around and let Lee show you how it is done.

Possibly next month we might have a demo on the Missing Link and or the TI Artist- and some other good stuff if a certain person or persons were to volunteer, hint - hint?!@#% Does someone have to drop a ton of bricks or something? Just kidding, but it would be nice to see your smiling faces at the front demoing the programs.

Until then, this is the thirsty man still looking for the water fountain, but I have learned my lesson, never raise your hand in a mixed crowd, you never know what someone will put in it,...see ya.###James###

-----VP/SysOp's RAMBLINGS-----

This month brings us a 2400 bps modem for our BBS. After some unavoidable delays, it is now up and JOYMING! We have the Textfiles area oper, and we find that it only likes textfiles. It requires you to type this - >EOF< - after sending a textfile to the BBS. This is how it recognizes the End Of File, kinky huh? But something we didn't plan for.....the Members Only area has developed a problem, probably due to something I overlooked while working on the software. I will work on that patch this month. This area didn't see a lot of action so we can take a few minutes away from the computer, okay?

I hope that the demo of the BBS was to everyone's liking last meeting. I did have some problems with the Hard Drive and/or the controller. It almost made the program itself look bad, but believe me, it was the hardware! It was a little hard doing the demo, especially since the problem prevented a true Upload/Download session. It isn't hard at all, just simply follow the screen

prompts, and you should be able to handle it. If there are any questions, just ask.

The BBS message traffic has slowed somewhat. Kinda like before, when we ran PBBS software. This software doesn't give me stats on who downloads what, and how often. PBBS had a system that gave credits for U/L's and D/L's relative to messages posted. We don't have that now, and the ratio of calls to messages has gotten out of proportion. Several BBS's I frequent require posting to keep your number and password. More people call now and don't post or even send a private message to someone, and I suspect it is to review the software lists. Don't be afraid to call and start a conversation! I know there are people out there with some questions for the SysOps or Software Manager. Perhaps a hardware problem has been nagging you. Please don't pass up the opportunity to use the message bases to obtain help or just stay in touch with other members. Remember - it is your BBS!

I have purchased TI-Artist Plus and The Missing Link. They are in and I have been playing with TIAP a little. I haven't gotten it on my Geneve yet, but I suspect it will be even better on that system. The Missing Link has been in the envelope and will remain there until I get time to do something with it. I hope to do a demo on TIAP sometime this year. It has several new operations and even has movies! Sounds great! In fact, the title screen is a movie, and you can bypass it or just let it run. More later.....

Time to LOGOFF ----- NO CARRIER ----- CLICK!\*\*\*Tom\*\*\*

-----MINUTES OF NET 99er MEETING  
of 7 April, 1990-----

In the temporary absence of the President, Vice President Tom Collins called the meeting to order at 10:00 AM, Saturday, 7 April, 1990. Approximately 18 members were present. The late starting time was due to the special equipment setup required for this meeting's demo program.

The minutes of the last meeting were accepted by the members as published in the newsletter. The treasurer's report for March 1990, indicating a club treasury balance of \$729.73, was read and accepted by the members.

New business (after the president arrived) included:

Since the new BBS system is up and running very well, it was agreed that the club should pay \$40 to Wolfgang Reisterer for the BBS software, \$37.00 for the original program and \$3.00 additional for the latest upgrades. The BBS, now maintained by Gary Owens at (817) 457-7043, will be further upgraded by Tom Collins to activate some new menu items; namely Textfiles and Date/Time/Version. The BBS will remain 7,E,1 so set your terminal programs accordingly. The BBS should go to 2400 Bps capability shortly.

The possibility of a 2nd Annual NET 99er Picnic was surfaced and agreed that it was a good idea to be discussed further at the next meeting.

Tom Collins gave a brief pre-demo explanation of the club's bulletin

board system including its origin, problems associated with its upgrade and the BBS software "Colossus". For demonstration purposes, two TI 99/4As were hooked together via their RS 232 serial ports. One computer was the BBS system itself while the other system became the "user's" system which used TELCO as its terminal program.

Tom's demo showed both the great capabilities of the NET 99er BBS and TELCO as an outstanding 99/4A or Geneve 9440 telecommunicating program. Best of all the BBS is free for local users.

A discussion followed concerning the Dallas User's group proposal to assist us with getting a METRO number so that they could call our BBS from Dallas without additional charge. The possibility of the Dallas User's Group paying for the line for one year in advance was suggested.

The possibility of putting the NET 99er monthly newsletter on the BBS and letting those that prefer download it and print it rather than have it mailed to them to save the club postage.

A short break was followed by a meager BUY-SELL-SWAP session.

Barbara Missey provided an excellent JDM demo of the upgraded version of TIPS an excellent print shop program that replaces the old TIPS program. Graphics files used with the old TIPS work great with the new version.

The meeting was adjourned at 12:50 PM. Respectfully Submitted by:\*\*\*Charles D. Bathmar, Secretary\*\*\*

-----TREASURY REPORT-----

The club started the month with \$729.73. We had collected \$130.42 and expenses of \$176.28 leaving the club with a total of \$686.65. It has been suggested that we have a break down of the cost and income of the club in the treasury report. I can do this, however I bring the club records every month to the meeting and in the three years I have been doing this not one person has asked to look at it once. If anyone wishes to see a breakdown please mention this at the meeting and we will see what type of format to take with it.\*\*\*LEE W DE "DREST"\*\*\*

-----RENEWALS DUE-----

We want to thank those who renewed their memberships last month. Those members who need to renew their memberships in the month of May are: Fred Deaver, Bill Duacan, Ron Ferguson, Donald Hammonds, Glenn Hindley, and Gordon Winfield. Please check your address label, if your membership expiration date is incorrect please let me know.

Members whose renewals are now past due are: Jim Leshar (4/90), Arnold Fraly (3/90), Tom Hall (3/90), Sharon Jolliff (3/90), Thomas D. Atkins (1/90), William T. Hardie (2/90), Dr. Michael McLendon (1/90), Michael Southern (1/90), Robert Stromple (1/90), Dr. Robert J. Stuart, MD (2/90), V

W Vessells (2/90), and Frank Williams (1/90). If you are unable to attend a meeting, you may send your \$20.00 membership fee to NET99er HCUG, c/o Bill Duncan, PO Box 534, Hurst, Texas 76053.

We also have MICROpendium subscriptions that need to be renewed this month. Check with Lee DeForest for your expiration date.

-----EDITOR'S INPUT-----

Due to the fact both Tom Collins and yours truly have had sick Hard Drives this Newsletter is late for some, and almost late for others. I have had the bulk of the letter done since the 12th, but have had a hard time getting the finishing touches done. It was mentioned last month to put the Newsletter out around the 20th. This is fine with me if I can get all the articles sent in by then. I am usually able to get the Newsletter out one day after I get the final submission.

For those of you interested in buying a new printer, a fax machine, or other misc hardware, beware of EXPRESS Micro Mart Inc. in Westbloomfield, Mi. I tried to purchase my NX-1000 Star Rainbow from them. They took the order, informed me it would be 5 to 8 working days and charged my account. Ten working days later, no printer, the charge was on my current bill and no one knew when they would send my printer. After over 18 working days with no one telling me when I would receive my printer I tried to cancel my order. But, to do that you had to call a non 800 number. I wrote my charge card company and told them what the problem was and that I had not received the product, didn't know when I would receive it and had tried to cancel the order. The same day I ordered the same printer from another company for \$1.00 more and received it in 6 working days, two days after I finally received the one I cancelled and refused delivery of. When you are told a product will arrive within a certain number of days, that product should arrive within that certain number of days or the company selling you the product should inform you of a delay and a new date. MICRO Express Mart, Inc learned they are indeed not the only store a person can order from.

I thought Tom did a really great job of showing us what the new BBS has to offer. Unfortunately due to some hardware problems not all the program was demoed. Hopefully this will get some of the members who have not yet tried the new BBS to blow the dust off their modems and give it a shout. Tom now has the BBS running at 2400 baud. Wow! Speed reading is a must. However, if you want to stop the scrolling you can use the spacebar at any time to interrupt it. Hitting the spacebar again continues the scrolling. Download time is extremely fast. No more trips to the kitchen for a snack!

Since there were a number of people interested in purchasing a 2400 baud modem, I gave Megitronics a call to see what type of a deal they would give us. They will sell us the Avatex 2400 baud modem for \$130 each (plus shipping and handling) if we can get 3 or more buyers.\*\*\*BAM\*\*\*

\*\*\*\*\*

To set your autodialer up with speed dialing at a low volume, try this string sent to me by Jeremy Collins. This works on the Avatex 2400 with TELCO, and it should also work with yours. However-before you change the string you are now using, write it down. That way if this new string does not work for you, or you do not like it, you can put your old string back in. It must be exactly like this:

!T&F!\*ATs11=50x4L1!

-----BUY, SWAP AND SELL-----

WANTED:

COR-COMP DSDD disk controller card for inside the TI PEBox, with or without Miller Epross and software. Also AVATEC 1200hc modem with power supply. Contact Charlie Bathman H-(817)485-5230, W-(817)290-2945, Startext MC-12426

FOR SALE:

DM2 Module.....\$10.....Lee DeForest.....237-9746  
XB Module with Manual.....\$35.....Lee DeForest  
Multiplan Modul (no book)....\$10.....Lee DeForest  
Personal Record Keeping  
with book.....\$10.....Lee DeForest  
Roll Printer Paper.....\$6.10...Brent Cooper....498-3259  
TI Logo II cartridge.....\$15.....Charlie Bathman..H-485-5230  
with documentation...W-280-2945 or Startext.MC-12426  
Complete System including: Black and Silver Console, Extended Basic, TI Writer, Editor-Assembler, Microsoft Multiplan cartridges, Cor-Comp Mico Expansion System with RS-232, 32K, DSDD Disk Controller, and one stand-alone SSDD disk drive. All connectors, wiring, software and documentation are included. Asking \$325.00 complete, will sell separately. All reasonable offers considered. Contact Charlie Bathman, numbers above.  
13"TI monitor designed for TI 99/4A, cables included.....\$150 or with above system....\$450....Charlie Bathman  
Additional TI 99/4A consoles with power supplies and documentation...each.\$25.....Charlie Bathman  
Two virtually new full height 35 track SSDD disk drives capable of 310 sectors each. Will work with any TI system and will read 360 sector disks except for last 50 sectors. Asking...\$30 each, or \$60 for both and will include a third 35 sector drive that needs work...Charlie Bathman  
I have some 2400 baud Hayes compatible modems, guaranteed for 5 years. American made. All settings are done with

software (no dip switches). They will store three phone numbers, automatically lock onto the baud rate of the sender when your software is set for it...Each \$99.95  
...Jim Leshar... (214)821-9274..StarText MC-134385  
PEBox with 32K, TI Disk Controller, SSSD Drive....\$150-(Neg).  
Tom Collins...738-2428..MC-232653

-----OBITUARY-----

We were saddened to learn recently of the death of one of our most valued members, Someone Else. Someone's passing created a vacancy that will be difficult to fill. Else had been with us almost since our club was formed, and, during that time, Someone did far more than a normal person's share of the work. Whenever leadership was mentioned, this wonderful person was looked to for inspiration, as well as results.

It is often said, "Someone Else can work with the Group or Committee." Whenever there was a job to be done or a meeting to attend, one name was on everyone's list. "Let Someone Else do it."

Someone Else was a wonderful person, sometimes appearing superhuman. But a person can only do so much work. Were the truth be known, everyone just expected too much from Someone Else. Now Someone Else is gone, and we wonder what we are going to do.

Someone Else left a wonderful example to follow, but who is going to follow it? Who is going to do the things that Someone Else did?

Editors note: Someone Else will surely be missed by the NET99ers(?). But, life continues, so maybe Someone Else's cousin, "I'll Do It" will step in and fill the void.

This article was taken from the Hoosier Users Group. They got it from the Phila Area Users Group via Reading-Berk 99ers. The (?)Net99ers was substituted for the other Groups name.

Seems we are all having this problem.

-----DEATH OF THE SLIDE RULE-----

by Dan Gitman

Recently, Dietzgen Corp. of Des Plaines, Illinois, did an inventory of its warehouse and stumbled across a treasure to rival the unearthing of King Tut's tomb -- box upon box filled with...slide rules. 50,000 of them.

Dietzgen, which is 104 years old and used to be one of the biggest manufacturers of slide rules in the world, now gives the stash away for free to collectors and the curious. "We've got 4,000 left," says director of marketing Michael Peterson. "After they're gone, that's it." The slide rule, washed away by The Computer Age, is breathing its last gasp. Like the

dinosaurs who once ruled the earth, the mighty slide rule disappeared and was replaced by more adaptable creatures. For those born too late, the slide rule was an ingenious device that primitive pre-Disco man used for higher math functions while waiting for the microchip to be perfected.

Invented in 1632 by an English clergyman named William Cughtred, your classic "slip-stick" consisted of three parallel rulers and a movable transparent plate. The middle stick slid between the other two, sort of like a trombone. In simplest terms, the slide rule reduced multiplication and division to addition and subtraction. By adding or taking away distances on logarithmic scales, it could calculate squares, square roots, powers, cubes, cosines and other trigonometric functions that baffled all but the brightest engineering students.

Gas lamps and penny candy are quaint reminders of simpler times. I'd like to rhapsodize about the slide rule's passing in the same way, but if the truth be known, the slide rule was a bad idea from the get-go. It died not just because of obsolescence, but also because of bad press, marketing and perhaps more than anything else, its inherent nerdiness.

First of all, any third grader could perform math tasks on paper that were beyond the reach of the most expensive slide rule. I mean, you couldn't do simple addition and subtraction on the blasted things! Square roots and cubes are fine, but before investing the hours, days, or months necessary to use a slide rule, one couldn't help but ponder how often in life it's necessary to know the square root of ANYTHING. Furthermore, instead of giving an exact answer, slide rules depended on human judgment to estimate a number between two lines. If you asked a class of students to multiply 196 by 345 with their slide rules, no two people got the same answer, and nobody EVER got the exact answer. Slide rules simply were not accurate, which is kind of odd for a mathematical instrument. The slide rule didn't even have decimal points -- you had to insert them in the answers yourself! 2.35? 235? 23.5? One answer is as good as another to a slide rule. They were useless for everyday tasks. You never saw anybody walking down the aisle of a grocery store with a slide rule. It could calculate pi to the tenth place, but the cost of a can of beans overwhelmed it. Today, people complain that personal computers aren't user-friendly, but the slide rule was a nightmare. The thing just didn't make sense. But what really killed the slide rule -- perhaps even more than the calculator -- was its nerdiness. You never saw pictures of hot cars or sexy babes on slide rules. It was never, "Oh, dig this cool new slide rule," but always, "Quick, let's cross the street -- here comes that goofy Poindexter with his new slide rule."

The slide rule was associated with engineers, chem lab, Coke bottle eyeglasses and plastic pen holders. Some poor misguided unfortunates even hung them from their belts, like scabbards. You knew what THESE guys were doing on prom night. With all these built-in problems, was it any surprise that the first pocket calculators were welcomed like the Allies storming the

beach at Normandy? So let us not mourn the passing of the slide rule, but be thankful it's gone, properly buried, and sliding off into history.

-----FROM THE METROPLEXER BBS-----  
Jargon Related to Computers and Telecomputing  
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Freeware: May be distributed without profit freely

Telecom -- Telecomputing, data telecommunications. Over phone lines with the aid of a modem.

Modem -- Modulator/Demodulator, converts data into sound for transmission and then back into data.

SysOp -- System Operator. The manager of the host (called) system.

BBS -- Electronic Bulletin Board System, much like its real world metaphor.

Data-bits, Parity, Stop-bits -- Usually 7E1 respectively, sometimes 8N1. What this really is does not matter, you will always be told how to set these by the host system or you will have to hack it out

(E=Even, O=Odd, N=None for Parity).

Baud -- Becoming an obsolete term. "BPS" is now taking precedence because baud loses its meaning when the number is higher.

BPS -- Bits Per Second, a speed rating for a modem transmission. 300bps is the slowest standard, 1200bps is the current standard, and 2400bps is the fastest standard. Anything faster is non-standard.

Terminal -- The standard terminal now-a-days can be assumed to have 24 vertical lines and 80 horizontal columns. Terminal means the remote user's screen and keyboard (and software if a "smart" terminal).

Emulation - Emulating a kind of special terminal. TTY is the default (teletype) Special terminal types allow the host system the power to position the cursor anywhere on the screen it wants (as opposed to just down and to the right sequentially) and some other stuff too. Some popular ones are: VT52, VT100, Datamedia 1500, VIDTEX, and others. Char -- short for character: letter, number, symbol. Ascii.

ASCII -- (pronounced "as-key") American Standard Code for Information Interchange. Derived from the ISO standard character set.

Up -- In operation.

Down -- Not (currently) in operation.

Upload -- Send information or a program to the system you call.

Download -- Receive information from a system you call.

Run -- Operate or execute. Go or do. Very general term.

Online -- In the system, connected/accessible.

OpSys -- Operating System (like MS-DOS, ProDOS-8, TI NET, etc.)

Transfer rate! Fill screen (1920 chars)! What it means

300 bps	! 57.6 seconds	! very slow
1200 bps	! 14.4 seconds	! used by most people
2400 bps	! 7.2 seconds	! little faster

-----CEGTICS90D FERROELECTRIC MEMORY CHIPS-----  
by Jim Lesher

Rantron Corp. Colorado Springs. is working on a 4-megabit static memory chip. The new process requires only 1/4 the amount of transistors on present day chips. Also present day static rams require a small current to keep them "fresh". These NEW static rams will hold their information for ten years without batteries. The new static rams have their own name; FRAMs. Some experts predict that by the year 2000, chips will be able to store more than 1 gigabit. Another company is presently making matchbook size solid state disk drives as replacements for the mechanical ones.

-----TI PROGRAM RECOVERY-----

copied from Home Computer Magazine, Mark Finkelstein

Have you every been typing in a long program and then accidentally pressed <QUIT> before you had a chance to save what you were typing? If you have EXTENDED BASIC and the 32K memory expansion, you can easily retrieve your lost program.

Here is an example of how you do this:

First type a short program in EXTENDED BASIC with the memory expansion on; Then type <CALL PEEK(-31952,A,B,C,D) :: PRINT A;B;C;D>. The first two values shown, point to the start of the line number table. The second pair of values point to the end of this table. Write down these numbers. Now press <QUIT> and re-enter EXTENDED BASIC. Next type <CALL INIT>. Now you must reload the values you wrote down. Do this by typing <CALL LOAD(-31952,W,X,Y,X)>, replacing the <W> with the first number you wrote, the <X> with the second value, etc.. Type <LIST> and presto! You have found your program.

There is only one drawback: if you add any lines to your program after you have found the four numbers, you must re-PEEK that address and get four new values. If you do not do this, and then try to place the old values into memory, your computer will most likely lock up.

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The following is Part III of a series written by John F. Willforth. This was first written back in December of 87. Please note that the MYARC

Hard/Floppy controller card now WORKS in the Geneve (9640).

-----LET'S TALK RAM DISK-----

by John F. Willforth

Last month I talked about the HORIZON RAM DISK (HRD), and it makes sense that we continue this month with the major enhancements of this unit, the 256K (976 sectors) version by Edward A. Hallett, and the 1-MEG (4096 sectors) version by Mike A. Ballmann and marketed by Bud Mills Services as a kit in various sizes. See details below.

The 256K enhancement designed by Edward A. Hallett, added 64K of 8K static ram to the existing DSSD HRD from HORIZON. This was equal to 256 sectors for a 15.5% addition. At the time this was a welcome improvement because the full blown HRD was precisely the same as the majority of the disk configurations in the PEB units. This meant that you could store an entire DSSD (720K) diskette (the max. for the TI controller), on a single ISSD HRD. This was fine as long as you were not using the HRD as a media to do multiple copies of a DSSD diskette, or when all the utilities and your "PET" programs were just too large for the HRD. The additional memory was nearly the size of a standard 90K drive and therefore was a very welcome enhancement. Some of the more common programs that would occupy this space, were the MENU, by John L. Johnson, SM-1400, and many more, these when on the HRD enhanced, would still allow the space to move an entire DSSD diskette to and from the HRD and not disturb these programs.

The information on this upgrade is available from Edward A. Hallett, 5600 COUNTRYCLUB #64, TUCSON, AZ 85706 (602)889-6939, or as a kit /instructions from Bud Mills Services, 166 DARTMOUTH DRIVE, TOLEDO, OH 43614 for \$31, upgrade only. Be sure to send Edward something for his trouble and postage.

The HRD, HRD Enhanced, and HRI+ constitute probably the largest range of various disk sizes in the ENTIRE micro-computer industry. There are now EIGHT different sizes to choose from, and if you want using the Ver. 4 from HORIZON and the ROS from Mike Ballmann and John Johnson, there are actually "ELEVEN" different sizes. The smallest is 90K (360 sectors) all the way up to the 1-MEG HRD+, and nearly every usable size between (180K, 250K, 300K, 312K, 300K, 300K + Boot-Disk). As you might expect, a special formatter is needed to handle all the various sizes and initialize them reliably, and this is available in the CONFIGURE program by John Johnson, which allows initializing all or any parts of the above HRDs. More on this and the MENU program at another time and in another article. These are offered as public domain programs.

On 1/16/88 Bud Mills Services completed the purchase of the HORIZON RAM DISK from Ron Gries and Dave Rorer. I'm not sure of their current arrangements, but it would appear that orders for the BARE BOARD and I recommend most if not all the parts, contact Bud Mills Services at the address

above. The 90K drive kit sells for \$140. and the 1-MEG kit sells for \$435. (incl. sh). Other are proportionately priced.

All HRD's are constructed on the HORIZON Ram Disk board using 62256's (or equiv.) as of this date. The 6264's (2K chips) are no longer used. The cost per Kilobyte of RAM has been reduced, as well as the physical chip count and thus capacity of the board improved.

The ROS (Operating System) allows a single RAM DISK at the CRU address (say >1000) to be divided into TEN LOGICAL DRIVES if desired, or into as little as ONE with a size from as little as around 30 sectors up to 408 sectors on the 1-MEG version if you can find enough large files to use it all. TWO of these can be called DSKn. (1-9) and any of the remaining will respond to DSK(name), the Disk Number can be changed with CALL from BASIC. The flexibility in this area exceeds the space I can take here, but briefly you can Write Protect Drives Auto-On or call automatically or power-up, Toggle Disks into the second LOGICAL DRIVES location, even from another RAM DISK. You can fill up and PEB with the HRD+ and use ALL of them. There are 9 CALLS and 15 MENU selections available in MENU Ver 7.37 which will add even a lot more expansion capabilities in these areas.

Construction is the HARDEST part for most people, after all no matter what errors are made operator type!, someone will be able to assist you in the phone, but if you destroy the board, or a component, or have wired it incorrectly, very few can help a novice repair it over the phone. The instructions have all the information there to build the board, but you MUST be better than average at following instructions, and at electronics kit construction, or you better find someone who is! It can be done, I did it the first time right. Hey a little luck can't hurt either. Want a rumor, the PRINT SPONGER is just a few weeks away for the HRD's! Was I wrong about the 1-Meg RAM DISK?