

JUNE 1984  
Vol.2 No.6



THE  
SPRITE

a monthly newsletter of  
THE 9900 USER'S GROUP, INC.

A voluntary organization for the  
sharing of knowledge and  
resources of people having  
interests in, or ownership of  
9900 processor based Home  
Computers.

THE SPRITE is published monthly by THE 9900 USER'S GROUP, INC. for the enjoyment and furthering the knowledge of it's members in the use of 9900 processor based Home Computers. Address all correspondence to the EDITOR, THE 9900 USER'S GROUP, INC. P.O. Box K, Moorestown, N.J. 08057.

Articles from other newsletters are welcome and will be included to broaden our readerships base of knowledge and experience level. All submissions will be noted and credit given to the author. Articles from this newsletter may be reprinted for use by other user groups so long as the user group in question is an existing viable entity for the benefit of those wishing computer literacy. User groups that exist without a membership at large will not be considered user groups per-se. All articles or letters sent to the Editor for publication are subject to the unrestricted right to edit and comment.

THE SPRITE is available by subscription for \$12.00 per year for 12 issues. Send all subscription payments and/or change of address to THE 9900 USER'S GROUP, INC., Subscription Service, P.O. Box K, Moorestown, N.J. 08057.

It will be the policy of THE 9900 USER'S GROUP, INC. not to pass, copy, or sell copyrighted text, cassettes, diskettes, or any other copyrighted medium thru The Group without the permission of the copyright owner either by written permission or through the Copyright Clearance Center, 21 Congress St., Salem, MA. 01970.

Membership in THE 9900 USER'S GROUP, INC. does not impart to the general member any corporate authority or status to act for the corporation. Membership in THE 9900 USER'S GROUP, INC. is for one year from the month membership is acquired. Present membership rates are: \$17/yr. as of January 1, 1984. Rates are subject to change without notice.

THE SPRITE is soliciting advertisers at the following rates:

FULL PAGE \$15.00 Note: All submitted  
1/2 PAGE \$8.00 advertisements must  
1/4 PAGE \$5.00 be printer ready.

We must receive all submissions by the 12th of each month for the next month's printing. Prepaid Orders Only!

#### THE GROUP OFFICERS and STAFF:

PRESIDENT - Michael J. Baker      VICE-PRESIDENT - Larry Wittenberg  
SECRETARY - Ray Osowski      TREASURER - (vacant)  
LIBRARIANS - Ray Osowski, cassette  
                 Mike Harte, diskette

#### THE SPRITE STAFF:

Editor-in-Chief - Michael J. Baker  
Research Editor - Errol Lansberry

## INTRODUCTION:

You can't fool me I know when it's summer! I spend more time in the pool and less time doing this. I also know that a lot of you will be doing the same thing. Ok. So who's watching the store? Oh well, that's what summer is for I guess. Speaking of summery things there's a picnic for all NJ User's Groups on 24 June 1984. Naturally THIS year, but for some folks, numbers are important. NY 'pushcart' style SABRETT hot dogs are on the menu and are being provided by the Executive Council via NewJUG/North there will be the appropriate condiments as well as soda, plates, cups, napkins and utensils. The location is Duke Island Park near Bridgewater, Somerset County. Say what? Where's dat? North, go north. So bring all your TI friends, leave your 99/4A's at home and let's have fun!! If you want hamburgers etc you'll have to supply that. Don't forget lawn chairs! There is a flyer in this newsletter with directions.

Lot's of interesting things have happened, are happening, and will be happening so stay tuned to your local User's Group. Do you still get that annoying MEMORY FULL? Even with Extended Basic and the 32k expansion? Good news for you ...read on and all will be explained. You have the TEII and you think LOGON is a lumberjack on a log? Read on ...all will be explained. Thought you knew little about the LINPUT statement did ya? Welcome. After this months challenge we'll all be mumbling to ourselves 'What could they possibly sneak by us now?' It's really not that bad but quite interesting. I also plan to reply to a challenge I placed in a newsletter a couple of months back on putting a LOT of lines on the screen with only 3 PRINT statements. Now that was the catch! I said 3 PRINT statements but forgot to clarify that that was all I used. NO other supporting statements. I got some interesting replys and techniques though.

Supposedly the new TI WRITER spelling checker is out! Contact DRAGONSLAYER SOFTWARE 2686 Ponderosa Dr. Omaha, NE. 68123 Tel. 482-896-2221 speak to Dee Turner. That should be an interesting addition to anyone who does a lot of text work such as this newsletter.

Have no fear, a meeting place has been found. Look elsewhere for info and a MAP. We will be up in Cinnaminson for the summer. Next meeting is the 26th of JUNE. Also, we had planned on some door prizes for the last meeting but the roll of tickets was left behind. We promise to do better this month. See ya at the next meeting.

## SOUTH JERSEY BBS:

South Jersey finally has it's own 99'er BBS. Although still in the experimental stages South Jersey 99/4A users now have a BBS of their very own. The number of the BBS will be

609-435-7301. As you notice that's the groups phone number! Well I did say a long time ago that that was what that number was going to eventually be used for. It is not yet a 24hr bulletin board but will be running when I'm not doing work. All I need is a disk controller and an RS232 to get it working on a system all it's own on a 24hr basis. If you call 435-7301 and you get no answer then the system is in use by me OR it crashed while I'm away. A busy signal is obvious. I'm trying to get it just right so that if the system does crash (due to an operator ERROR, I/O ERROR, etc.) it will reboot itself. There's no way to reboot if there's a power failure. That is not necessarily impossible, just extremely difficult. So, dial away and excercise it. Leave comments for system upgrades, new techniques as well as messages to THE GROUP! Since it is still running experimentally beware of crashes! Some sections are not yet functional. Use it and watch it grow!

## NEW BBS Numbers:

Here are a few more BBS numbers:  
Toms River, NJ 201-929-8161  
Reading, PA. 215-929-5348  
Newark, DE. 302-322-3999

## WARGAMES:

Since we're still talking about BBS's and modems and such there is a neat program in the library that will scan BBS's or any other set of numbers for that matter just like in the movie WARGAMES. Isn't technology fun!

## VERY OLD NEWSLETTER CHALLENGE:

Well, I guess I have to let it out don't I. Some groups came up with some good results but none using JUST PRINT statements. Many have already heard of the techniques to increase line size of the PRINT statement. The easiest one is while in Extended BASIC and the using the REDD function. Now that will add quite a few lines. However what about the folks using only BASIC. The 'key' in a nutshell is to FILL-UP the PRINT statement lines. For example:

```
100 PRINT "THIS IS A FULL LI  
NE OF TEXT."
```

That obviously doesn't FILL-UP all four lines. Let's FILL-UP all 4 lines to show the method.

```
100 PRINT "THIS IS A FULL LI  
NE OF TEXT AND WILL PRINT CO  
NTINUOUSLY WITH NO INTERRUPT  
ION TO THE 2ND & 3RD LINES."
```

That's full. All you do is press ENTER. Then go back and re-EDIT that line, move your cursor to the right continuously and VOILA! Your cursor will keep right on going to the NEXT BLANK LINE. Repeat the FILL-UP and do it again. You can do this for up to 6 lines for the PRINT and INPUT statements. But what if it wasn't packed just right? Ok, here's what you do.

```
100 PRINT "THIS IS A FULL LI
NE OF TEXT BUT WILL NOT COMP
LETELY FILLALL LINES OF THIS
STATEMENT."
```

As you can see, line 4 is not full but "PADDED" to put the PRINT SEPARATOR at the very last cell. I could have done ...STATEMENT.": ". Any method that will place a PRINT SEPARATOR in the LAST cell will work. After all you will be going back to edit that line anyway.

Well, there you have it again! Remember, this is a BASIC trick to do the same thing in Extended BASIC just use REDO-FCFN to achieve more lines.

#### ANOTHER CHALLENGE:

This is more of a brain teaser. Something that some of you may use and never fully understand. For the 'True User' that is an acceptable philosophy. The 'Hacker' however lives for this sort of thing. Again, the answer is in your TI Extended BASIC book but subtle, ever so subtle. I'd like to hear some responses on this one. This was originally put out by Barry Traver of the Philadelphia Group. Good Luck!

```
LINPUT BUG:
100 ! LINPUT PUZZLE/BUG by B.A. Traver
110 !QUESTIONS? SEND SASE Barry Traver
122 !552 Seville St. Phila. PA. 19128
130 CALL CLEAR :: PRINT "LINPUT PUZZLE /BUG": "BY
BARRY TRAVER"
140 PRINT " Can you figure out why your
computer will not obey?"
150 PRINT "Why won't it STOP when you tell it
to?":;
160 !
170 LINPUT "WANT ME TO STOP? (YES/NO)":M$
180 IF M$="YES" THEN STOP ELSE 170
190 END
```

#### MORE STUFF AVAILABLE!:

GRAPHICS-GRABBER 80 col Screen Dump- \$19.95  
Copy-Cat, a quick disk copy routine \$19.95

Write: INFORMATION ASSOCIATION

4651 Albelia Ct.  
Acworth, Ga. 30101  
or call 404-428-9050 add \$2.00 shipping &  
handling.

#### A GIFT FROM AFAR!!

Not too long ago I received a package from CorComp and assumed it was my disk controller. Not so. To my surprise however there crisp and clean to my amazement sat a 32k memory card! I need more surprises like that! My 24hr BBS is beginning to take shape. I have the P-box, now the 32k card and I have disk controller coming so all I need are a couple of half heights and an RS232. The CorComp 32k card is presently storing all that you are reading and is getting a good run for it's 'money.' It's doing very well. I run this system almost continuously for myself and the BBS so this 32k card from CorComp will be getting a very good burn in.

Since we're on the subject of CorComp it should be noted that the long awaited upgrade is still in our future. They are being very carefull and want to put out a quality product and market it correctly, not like someone else we knew. They have had responses from chain stores one being SEARS ROEBUCK but they refused to put their computer out to market that way. They will be placing it in 'Computer' stores where people who are more fluent in bit's n' bytes and bauds will tell the public about it. I think we should all wish them the best of luck and give them all the support we can. Even if you can't buy something right now or even next month or the month after don't hesitate to write them or even call them to show them there is support out here! Their telephone number is 714-630-2903. Say hello to Jackirae, she'll answer any questions you may have. Their new address by the way is: 1255 N. Tustin Ave. Anaheim, CA 92807.

FORTH - Double Sided by Jim Vincent  
From the Milwaukee Area Users Group

So you have double-sided drives for your 99/4A. When you obtained your copy of TI FORTH from the users 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 how to make TI FORTH work with double sided drives.

TI FORTH uses direct sector addressing to read/write screens to disk. Each screen is 1024 bytes or four (4) single density sectors long. To be compatible with the Disk 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 (0) through four (4) are allocated to this overhead operation. The first file, FORTH (actually just a short Assembly Language loader program) begins in sector )22 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 occupies all remaining sectors from )4D to the end of the disk. Thus the SYS-SCRNS takes up not only the sectors from )4D to the end of the disk, but also has an extent that takes up sectors )5 thru )21.

Now, since TI FORTH uses direct sector addressing, it expects screen 3 (the boot screen) to be in sectors )C thru )F. If you use the Disk Manager to copy these three files from a single sided to a double sided disk the Disk Manager is able to place the whole SYS-SCRNS file on the disk contiguously. No extents are required, thus what was at sector )5 thru )21 is now at sector 168 to 184. Is it any wonder FORTH acts strange? The boot screen only contains garbage.!

To remedy this situation we must copy a single-sided disk, sector for sector, to a double sided disk and then doctor sectors zero (0) to four (4) to comply with the Disk Manager's standards. Then, to use the extra capacity, we must update a couple of screens.

Your first step however, must be to initialize a double sided disk using Disk Manager II. Next load FORTH and enter 0 DISK\_LO ! to enable access to screen 0. Load the -COPY screens and use the command FORTH-COPY to duplicate your single sided FORTH to the double sided disk. If you do not have two drives, use the Disk Manager to copy all three files but then use FORTH to copy screens 1 thru 9.

Follow this technique:

n BLOCK UPDATE (where n is the screen number to be read from the 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 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 occurrences to 180. Next edit screen 40 as follows:

LINE	CURRENT	CHANGE TO
3	168	2D0
5	2000	202B
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 this:

```

HEX
:DOUBLE-FORTH 0 BLOCK UPDATE DUP A
+ 2D0 SWAP ! DUP 10 + 202B SWAP !
12 + 0201 SWAP ! 1 BLOCK UPDATE DUP
E + 2A0 SWAP ! DUP 1C + AD20 SWAP !
DUP 1E + 2805 SWAP ! 20 + FD29 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 disk controller card. Contact: FORTH CHALLENGE Attn: Jim Vincent 2007 N 71st ST Wauwatosa, WI. 53213

Ed. - Next month we will show another variation of this.

#### FOR SALE:

Errol Lansberry has TWO expansion systems for sale. Each box contains one 32k memory card, a TI Disk Controller and one single sided disk drive. Each one is ONLY \$375. Also available is one 5 1/4" disk drive for \$85. For more info contact Errol at 931-0382.

#### "OSCAR": a Continuing Review

Last month I left off by stating that a copy of this review will be sent to the DATABAR Corp. and hopefully by next meeting I should have a reply. Those of you attending the last meeting found out that by the meeting date, I only had a promise of a NEW OSCAR. Between the letter and the phone call to DATABAR I received two phone calls, both to the office while I was out. The second phone call promised that I would receive a new OSCAR the following week. When I returned home after the last meeting, my new friend OSCAR was waiting. After unloading the car and putting everything away I was too pooped to give OSCAR a try. The next morning, I took the users guide to work with me. During the day I spent a few moments reviewing the manual. It was the same manual

that was sent with the original OSCAR.

Friday evening, I arrived home, I put the batteries into OSCAR then plugged it into the cassette port. Taking out the same program that gave me so much trouble last month, arranging OSCAR to my right, I took the wand and set it on the upside down template. (I still found it easier to use the template upside down.) The first line of code, which tells OSCAR which computer he is talking to was entered without a problem. Following the instructions, I set up the 99/4A to READ. The lines of code seemed to be accepted, I got the proper signals, and thought how easy. About this time I heard the error tone from the 99/4A. Looking at my program sheet I found that the wand was on line eight, and the TI displayed "NO DATA FOUND". Here we go again! When I saw that "NO DATA FOUND" message I looked at OSCAR then at the circular file. Nah! One more try! Resetting the 99/4A I started over again fully expecting to see another "NO DATA FOUND". To my delight I was able to read the whole program without problems but I was sure when I looked at the monitor screen I would see an error message. Taking a deep breath I looked up and saw "DATA OK". I must take this opportunity to explain how elated I felt.

After all of the problems I had with the first OSCAR this new OSCAR was and is a joy to use. Ease of use is an understatement. If you hate typing in programs, consider OSCAR as an alternative. I love the way it works. In fairness to the DATABAR Corp. I will send them a copy of this month's review. Oh yes the hardware is terrific and you should consider putting OSCAR on your Buy list. Next month I will review the software.

**REMINDER:** via L.A. 99ers

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.

**TUTORIAL:** File Structures by George F. Steffen (L.A. 99ers)

While preparing for the presentation at the last meeting, I learned a little more about how data is stored in disk files. The same would apply to cassette files, except that they are always FIXED with length of 64, 128 or 192. The INPUT section of the User's Reference Guide discusses how data is stored, but this is strictly true for data in the computer memory. When a disk file is created, the computer needs some more information to enable it to get the information back accurately. When the file type is VARIABLE, the first byte is always record length. Of course this is

not necessary for FIXED files. Then, for INTERNAL type files, there is the length of the item and then the item itself as described in the INPUT section. On DISPLAY type files, since there can be only one item per record, there are no length bytes beyond the first. If there is no room on the sector of the disk for the next record, that sector is closed with a length byte of 255. Since there must always be room for this byte, the maximum length of a FIXED type file is 255 bytes. The necessity for a length byte at the beginning cuts maximum length of VARIABLE files to 254 bytes.

You should note that an INTERNAL VARIABLE file with only one item per record will have two length bytes at the beginning. For example if this is a numeric item, it will start 09 08 and then have an eight byte representation of the number. On FIXED records, records are padded to the record length with zeroes. This means that, when inputting from a record, if you get past the last item in that record you will read zero length strings. You must make sure that, when you keep more than one item on a record, that you move to the next record at the proper time, either by use of the RECORD statement or by an INPUT statement not followed by an input separator (comma). On cassette files, TYPE is not checked before input. Therefore, if you use the wrong file type, you may get unpredictable results rather than an ERROR message.

**LOGON:** a short short thesis by M J Baker

So you looked at Appendix B in your Terminal Emulator book and said RIGHT!!, uh huh, yup! So what! Eh, sort of true I guess. But what is LOGON? Who uses it and why do we need it? If you have a modem your one step closer to LOGON. LOGON is a computereez term for entering a particular telecommunications system. It may be THE SOURCE, or COMP-U-SERVE or one of a hundred BBS's. If you happen to have an auto-auto dial modem you can even set up your file LOGON to dial the call as well. A LOGON program will automatically answer initial questions, (assuming they are always in the same order) give your ID as well as send your PASSWORD. Occasionally we forget our system parameters, forget our passwords, our ID #'s and for those who have auto-dial they have the option of forgetting the phone number as well.

The only drawback to all this fancy LOGON stuff is that you must have a disk system to utilize it since access is RELATIVE for the input and output files you will create as set up by TEII and cassette files must be sequential. The program in the Terminal Emulator book is 2/3 worth of prompting. It sets up and requests all the characteristics each time you run the program. Those steps could easily be eliminated and all values and characteristics could be imbedded in the program. Now that we have a local BBS try it out. Assuming the BBS doesn't freak out. The program in the TEII book is rather limited in the things it can do for you.

Keep in mind that you don't really need TEII to do telecommunications work. An extended basic program will do just fine. The only point of difficulty will be if you wish to download or upload software. The TEII does make the handling of that a little easier. You will definitely learn to use and manipulate the world of file processing. Again keep in mind that downloading is assumed to be via disk systems. All services if they mention program size will do so in sector terminology.

All there is to a short telecommunications program is a bunch of LINPUT #'s and OPENING at least two RS232 files one in DISPLAY and UPDATE format and the other also in DISPLAY but in OUTPUT format. You will need a table to keep track and recognize the various things that are sent such as Control Codes etc. There is a real short example of such a technique in the back of the manual you received with your RS232 card. Call a friend and try it out. Start communicating.

JOYST: via AACC Coraopolis, Pa

FEBRUARY MEETING, All who attended should now be familiar with the various joysticks that can be used on the 99/4A, and maybe how to use them a little easier. As a follow up, John Dombrowski offers us this technique for switching from JOYST to KEY. "Did you ever want to change a game from joystick to keyboard or vice-versa? Here is an example of a change done in the game 'Aardvark' found in the June 83's 99'er Home Computer Magazine, or our AACC Library program no.7330. Use this section of 'Aardvark' as an example to change other programs.

Aardvark is like this:

```
630 CALL JOYST(1,X,Y)
640 IF S=-4 THEN FV=FV-1 :: GOTO 700
650 IF X=4 THEN FV=FV+1 :: GOTO 840
660 IF Y=4 THEN FH=FH-1 :: GOTO 900
670 IF Y=-4 THEN FH=FH+1 :: GOTO 970
```

Aardvark can change to this

```
630 CALL KEY(O,K,S)
640 IF K=83 THEN FV=FV-1 :: GOTO 700
650 IF K=68 THEN FV=FV+1 :: GOTO 840
660 IF K=69 THEN FH=FH-1 :: GOTO 900
670 IF K=88 THEN FH=FH+1 :: GOTO 970
```

\*NOTES\*

A. This is in EXTENDED BASIC.

B. In CALL JOYST, the X and Y are the variables for the position of the joystick. 4 or -4 is always returned. (see CALL JOYST in the User's Reference Manual)

C. In CALL KEY, we are checking for the K or the Key that is pressed. The numbers 83, 68, 69 and 88 are the ASCII codes for the S,D,E and X (arrow keys). (see CALL KEY and

Character Codes in the User's Reference Manual)

D. Always use the same logic and variables found in the program. It makes it easier. For example, the GOTO's are the same; FV and FH logic are the same; and even the line numbers can be the same (see above)

E. Each identical line number is doing the exact same logic. For example, in line 640, the X=-4 is the left on the joystick, while K=83 is S (left) on the keyboard.

MEETING DATES: summer months

All summer month meetings will be held at the CINNAMINSON TOWNSHIP COMMUNITY CENTER. This is diagonally across the street from COMPUTERLAND. If you are going north on Hwy 130 the first (and only) pedestrian walkway you come to will also have an intersection immediately after it. Get yourself into the jug handle to make a LEFT turn off of Hwy 130. Left turns are not allowed directly from Hwy 130. After you have crossed Hwy 130 you will be approaching the Cinnaminson Municipal Complex. The very first street to your left is MANOR RD and you should turn left here. About 100 ft down the road is the Community Center on your right. There is available parking. All meeting times are at 7:00PM. See you there!

Tuesday, 26 JUNE 1984

Tuesday, 24 JULY 1984

Tuesday, 28 AUGUST 1984

MEETING AGENDA:

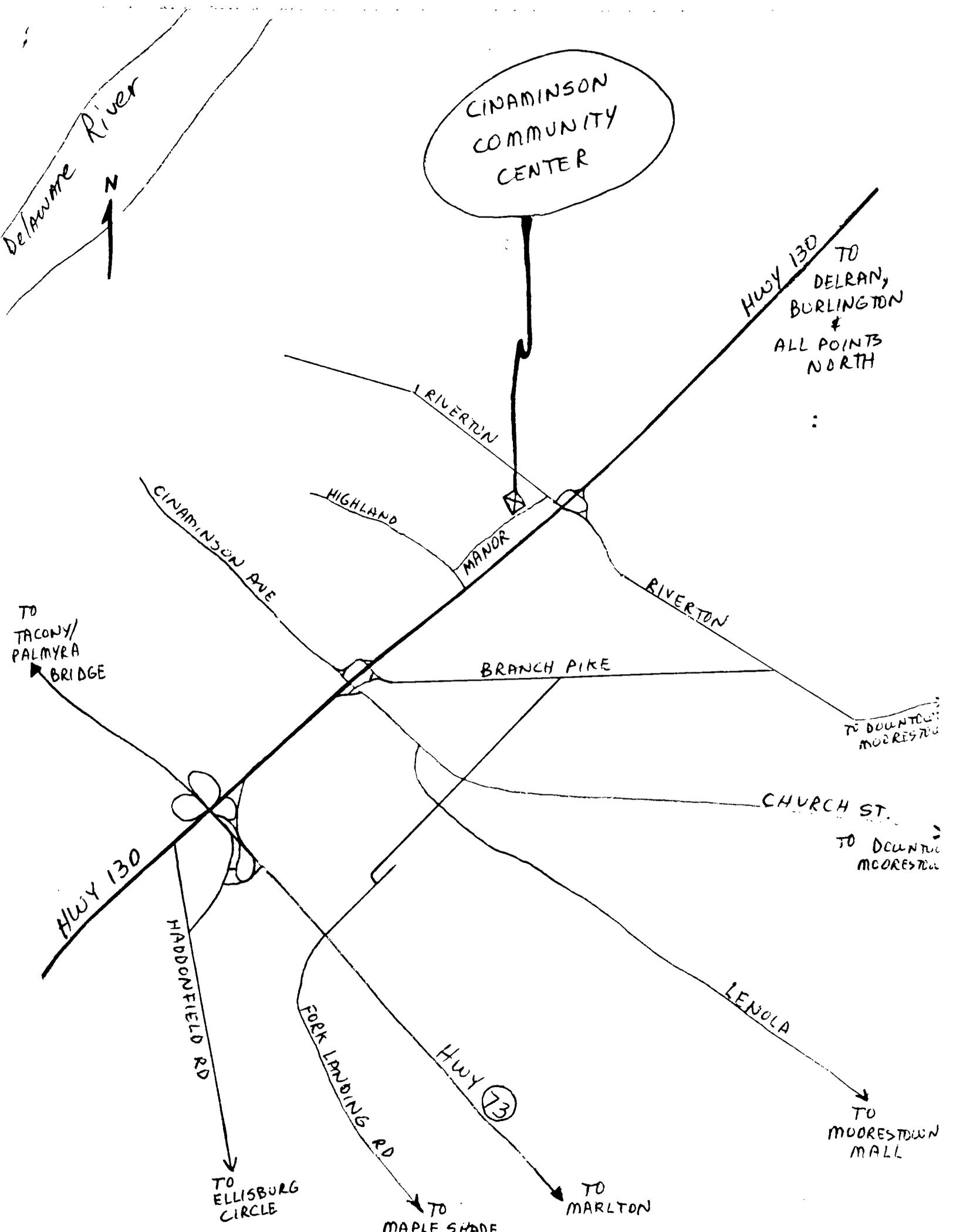
7:00PM - 7:15PM Introduction, miscellaneous news.

7:15PM - 8:00PM Tentative Demo by COMPUTERLAND.

8:00PM - 8:15PM Last minute news, updates, give away door prizes, etc.

8:15PM - 9:00PM Miscellaneous "free time." Join the group, purchase available items, etc.

9:00PM - End Meeting.



† THE 9900 USER'S GROUP, INC.  
P.O. BOX K  
MOORESTOWN, N.J. 08057



Edmonton 99'ers Users Society  
PO Box 11983, Edmonton  
Alberta, CANADA T5J-3L1