

CLEVELAND AREA TIO

USER GROUPS NEWSLETTER

DECEMBER, 1987



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MEETING DATES

<u>NORTHCOAST</u> 1:30 P.M. EUCLIDIAN ROOM EUCLID SQUARE MALL THIRD SATURDAY	<u>TI-CHIPS</u> 10:00 A.M. NORTH ROYALTON LIBRARY STATE ROAD & RT 82 THIRD SATURDAY
NOVEMBER 21, 1987	NOVEMBER 21, 1987
DECEMBER 19, 1987	DECEMBER 19, 1987
JANUARY 16, 1988	JANUARY 16, 1988
FEBRUARY 20, 1988	FEBRUARY 20, 1988
MARCH 19, 1988	MARCH 19, 1988



Where to start? After not finding any new or exciting hardware to software items to report, we are simple overwhelmed this month and may not be able to include everything. On the 28th, Marty Smoley and I went to Ernie Nitschke's to help with the library. I know you keep hearing that we are trading with this club or that and lots of new programs are here, but you haven't seen any of them yet. Most of you probably do not know that just about the time Ernie agreed to take on the library duties, he became quite ill. He spent time in the hospital and in therapy. He had to have his hands wrapped in parafin for treatments for his arthritis. Then, he had a bad reaction to gold shots and spent time in the hospital. He has just recently been up to the task of having the energy to spend on this mammoth job.

Even if library pages are not printed out for you to take home at the next meeting, we should be able to have a listing of the newest freeware and what it does so that you can place your order if you wish. In glancing through what Harry Hoffman brought back from Chicago, it looks like he did a great job in getting us the newest and best available.

Now to list some of the hardware projects and software items which have hit the newsletters this past week. The GRANULATOR. See detailed article on last page.

RAM CARD FROM RAVE 99 (the keyboard people). It replaces your 32K card, can be used with a Horizon card and can hold up to 512K of memory. It can be configured similar to a Super-Cart. While it has an 8K DSR RAM (2 of them actually), it also has 8K of memory mapped in at >4000 when no DSR is active. This will allow programs to have an extra 8K of memory space, and if coupled with the 8K Super Cart emulation, allows for 24K of memory running straight from >2000 to >7FFF, essentially tripling the amount of "low memory" available. Rave plans shipping in December. (This was taken from J. Peter Hoddie's column in the Boston Computer Society newsletter). He goes on to state he may do

a special version of Ti-Writer to take advantage of this extra memory. No price is quoted.

TRIO+ SOFTWARE has released a data disk for its TI-SINGS program, and a SING PLAY program to make SINGS data disks stand-alone disks. TI-SINGS requires the Speech Synthesizer and is a nice novelty program. It is only \$6.95, the Sings Data is \$10.00 and The Sing Play, \$5.00. They also announced a new desktop publishing program geared to making greeting cards, signs, letterheads and banners. The examples in their flyer look great, but Harry Hoffman purchased the disk at Chicago and says it has its limitations in that it limits you where you can place your text and graphics. It prints very slowly also.

ADVARD SOFTWARE has released Artist Enlarger and Artist Fonts and Legends is getting good press (the graphic adventure game). I read in 2 newsletters that there are plans to put TI-Artist into a module which will enable cassette only Tiers to use the program.

GENIAL COMPUTERNARE has a calendar reminder program for \$15, PC-Transfer by Mike Bodd which allows transferring of ASCII files between the TI and IBM or clone. It requires a NYARC or CorComp controller and 2 disk drives. \$25. Two disks of FONT PACKS for TI-Artist and Graphics Expander for TI-Artist. \$10 each. Genial Computerware, PO Box 183, Grafton MA 01519. \$1 for B&H.

IMAGENISE VIDED DIGITIZER. This is a board which can be used on ANY computer to capture the type of graphics we have been seeing in the RLE pictures. The How-To's were printed in the May and June, 1987 issues of BYTE magazine. It can be purchased in kit form or already completed. I am sorry I don't have an address, but your local library probably has a copy of BYTE where you can find it. It was in articles by a Steve Ciarcia. The software is available from Steve Langguth, 2956 South Barnes, Springfield, MD 21504. See the detailed article inside.

MCCANN SOFTWARE: They have a new font disk out for TPA fans (The Printers Apprentice) and have announced a new hardware project. Called the "Avanti 99", it is a multi-processor Board powered by the MC 4016 Forth Engine. From info in the Boston Computer Society newsletter, the handout says the Avanti 99 is fully programmable. Each card has an OK battery-backed BSR RAM fully accessible to the programmer. The MC4016 Forth Engine on each card has 40K of its own high-speed static ram and each card has the CH-FORTH operating system in ROM. Several of these cards can be installed and used for different operations at the same time.

I have been searching for ribbons and paper to do some of the fancy graphics we have for Christmas. At Children's Palace in North Olmsted, I found a pak of white paper with different Christmas borders. At Children's Palace, Burrows and Software Center, I found paks of colored papers with blue, green, gold and red either as a variety pak or individually. Only Software Centre had the quarter size envelopes if you were to make cards. Edu-Coop has the best buys on colored ribbons unless you go mail-order from one of the Computer Shopper ads. Judy tried, and could not get, gold and/or silver ribbons for me. I found silver at Software Centre. (I have a Genini 9610). Software Centre also has parchment paper for those of you who have Certificate 99.

Jin Mekeel asked me to post a couple of items: First, we are still accepting donations for PRBASE. Again, if you are using it, pay for it, or else new programs of this quality for only \$10 will cease to exist! Donate to someone either at Northcoast or Chips and we will combine the money to send it. The amount collected at the moment is so paltry, I won't even mention it. Secondly, John Blackner has donated 19 books titled "Using and Programming the TI-994/A to the North Coast club. We will sell these for \$1 each. Thank you JOHN!!!

I have prepared a "flipie" disk for Christmas songs. One side is graphics and auto-loads and auto-runs without any interaction. The second side is "sing-a-long" with words and no graphics. I will have a bunch at the meeting which we will sell of our usual \$1.00 per disk.

I ran out of space for several long, but good articles. I am going to upload them to Terry to put on FREE-NET so that some use can be gleaned from them before they go stale. The are: MULTIPLAN - A template to tracking a checking account and balancing it; THE ACCURACY OF THE TI SOUNDCHIP; and A DESCRIPTION OF HARDWARE AVAILABLE by J. Peter Hoddie.

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Here they are again folks, "My Executive Notes". The meeting was great as usual. The club is holding it's own financially. We had several new (and a couple slightly used) members join at this meeting. "And", we had a great Demo/Information session. The Demo by Steve Weinkamer was on Funnelweb/TI-Writer. Thanks Steve the demo was great, and I have to say it again, "I always learn one or two new things at these demos (I love it)".

A good part of the information was supplied by Harry Hoffman (Chips) who went to the Chicago Fair. He filled us in on what happened at the Fair and gave a quick rundown on half a dozen or more new Firmware programs he came across during the Fair. Everyone at the meeting was very interested and participated in the discussion.

This brings an important thought

to mind. There are a great number of members out there who I can remember, but I have not seen their faces at a meeting in a long time. You know who you are, so please try to make it to more of the meetings. Just to keep everyone informed as to the meeting dates, I have included all the dates for 1988. Unless there is a problem, wherein the call needs the Euclidian Room, these dates are firm. They are the third Saturday of every month, in the Euclidian Room, in the Euclid Square Mall. We have the room from 12:00 till 5:00 PM. The meetings are supposed to start at 1:30. We'd love to see you.

12/19/87

01/16/88

02/20/88

03/19/88

04/16/88

05/21/88

06/18/88

07/16/88

08/20/88

09/17/88

10/15/88

11/19/88

12/17/88

IMPORTANT

We Are Still Selling The Card

We are selling the CorCoop 256K RANDISK card which was part of our BBS. We paid \$170 for it a few months ago. We also changed board programs several times in the last few months and the board was down most of the time. So the RAM card is like new. We would like sealed bids from any individual or club that is interested. The bidding should start at \$100. The bids will be opened 10 days after our next meeting. This should give everyone who is interested time to enter a bid. Upon opening the bids, the person submitting the highest bid will be able to purchase the card at that price. If your interested contact me "Martin Saoley" as soon as possible. The problem last month was that we didn't get one bid, so someone may pick up a real bargain.

The Next NorthCoast Meeting

Ernie Malnar will be giving the next demo. It will be on his new RAVE 99/105 keyboard. This is a very interesting improvement for all the hardware people. It is also interesting for those of you who don't carry a soldering iron around in your trunk. It allows single keystroke arrowing, number keypad, and many specialized keys.

I'm also hoping we have enough time for a good question and answer session.

See you all at the next meeting. Marty.

EXECUTIVE NOTES - TI-CHIPS

The November meeting was loaded with interesting reports and demonstrations. There was to be an opportunity for "Swap and Shop", but the length of the meeting prevented such swapping. The Thainers were represented "in absentia" by John Parken, who had several products for sale.

Harry Hoffman attended the TI Faire in Chicago at the beginning of November. He described many of the new programs and products which were presented. Harry reported a good representation of companies at the Faire.

President Terry Vacha presented the newest version (4.0) of FUNNELWEB. It has many new features and improvements, especially in the Editor section of TI-Writer. Just when Version 3.5 was beginning to feel more comfortable!

Glenn Bernasek demonstrated two more BASIC programs which he has either written or adapted. Glenn speaks BASIC as fluently as English. He promises even better things once he adds 32K to his console and begins programming in Extended BASIC. Glenn is also a member of the Westlake Technology Computer Club. He is actively promoting TI-Chips amongst the TI owners in that club. Thanks, Glenn.

To help everyone understand EX BASIC a little better, Les Kee provided a demonstration of the DISPLAY AT statement. He used it in conjunction with PRINT USING and IMAGE for the screen and printer. Thank you, Les.

Ed Kannerly presented "Fractal Explorer" which will blow up sections of graphics and save the resultant graphic. The program, in Assembly Language, again demonstrates more of the capabilities of the TI. The December meeting will include a Christmas party. Don't forget to bring some cookies or pastry to share. If you can't make it to the meeting, then please accept our best wishes for happy holidays!

MARY PHILLIPS

ROUNDING DECIMAL PLACES Glenn Bernasek - TI-Chips

(My apologies to Mr. Bernasek on the short article in last month's newsletter. When I got my copy, I said "what happened?" I had forgotten that the caret sign will not print out with the TI-Writer formatter and the program was "unrunnable" as it appeared last month. He must have forgiven me as he submitted another fine article which follows.

```
100 CALL CLEAR
120 RANDOMIZE
130 N=RND
140 PRINT N, "( AS DRAWN )"
150 FOR B=0 TO 9 STEP -1 *10
160 R=INT(N^B+.5)/10^B
170 PRINT : R, "( ; B ; PLACES )"
180 NEXT B
190 PRINT : :TAB(5); "( PRESS ANY KEY )"
200 CALL KEY(0,K,B)
210 IF B=0 THEN 200 ELSE 110
```

NINIWRIER II AND II+ TECHNIQUES By Glenn Bernasek - TI-Chips

Not everyone has a PED with 32K expansion and a disk drive. This means, logically, we also do not have TI-Writer word processing software to create letters, reports and essays. This is why many of us purchased DataBiotics'

NINIWRIER II and II+ or their new WORDWRITER module to help us perform our everyday typing chores on our TI99/4A's.

These cartridges contain one Powerhouse word processor. I was amazed with the control and flexibility I had at my fingertips. I've used my NINIWRIER II+ for everything from a short address label to a lengthy six-page report.

While using this module, I've developed several techniques. Two of which I'd like to share with you at this time. They are the 40-COLUMN SCREEN FORMAT and the DOUBLE COLUMN NEWSLETTER FORMAT. Following are the step-by-step instructions on how to use these techniques.

40-COLUMN SCREEN FORMAT

1. Use the word-wrap function.
2. To format a 40-column typing screen:
 - A. Set tabs to: L=1, I=(paragraph indent) and R=40.
 - B. DO NOT set any special tabbing.
 - C. DO NOT use line number display.
 - D. Type and edit your work while in the 40-column format.
3. To Reformat to a FULL page:
 - A. Set tabs to: L=1, I=(paragraph indent), T=(as required) and R=(FULL page right column).
 - B. To reformat single line subjects: set cursor to proper tab, and press (CTRL/R).
 - C. To reformat paragraphs or multiple line subjects:
 - a. Set cursor to INDENT; then press (CTRL/R).
 - b. Set cursor to proper left column location on the SECOND line; then press (CTRL/R).
 - D. Proceed to next subject or paragraph, and repeat sequence as per step 3B or 3C above.
4. Save to CSI.
5. Print to PIO.MA=(left margin) or PIO.LM=(left margin), depending on which command your printer uses for margin control.

DOUBLE-COLUMN NEWSLETTER FORMAT

1. DO NOT USE WORD-WRAP FUNCTION!
2. First column set-up:

Set tabs for: L=1, I=(paragraph indent), T=15(center of column for titles) and R=31.
3. Start at Line 4, and type through line 55 (or whatever number of lines you wish to put on a page.)
4. Second column setup:

Set tabs for: L=36, I=(same paragraph indent) and R=67.
5. Start typing at FIRST line of column one (including title line), and type no further than the LAST line of the page.
6. Reset page tab to: L=1 and R=67.
7. You can make nice neat right margins by inserting appropriate spaces as you go along.
8. Save to CSI.
9. Print to PIO>MR=(left margin) or PIO>LM=(left margin), depending on which command your printer uses for left margin control.

These techniques may seem a little awkward, but they provide me with both the control and the final product I require. As you will notice, the 40-COLUMN SCREEN FORMAT technique gives you full screen typing and editing control without that bothersome right to left scrolling.

Another technique I've developed is drawing pictures with the NINIWRIER II+, but that's another story.

(ED. NOTE: Glenn, you have whetted our appetite. Hope that you will let us in on your secrets next month!!!)

FUNNELWEB 4.0 - AN OVERVIEW
by Tom Nellis - NORTH COAST 99ERS

The following letter was received from Tony McGovern with the transmittal of Funnelweb 4.0 to the group via Jim McKeel of Northcoast.

Dear James:

The long development process of Funnelweb V.4.0 is just about over. I'm just waiting now for comments and bug notices to come in from a short pre-release period. I've found only one minor and seemingly harmless bug since then, but you know the way with bugs, they lurk in there ready to bite at the most inconvenient moment. It may be a few more days yet before this goes off in the mail.

We now have a second PEbox going. Bought it from old friends in the US at a fairly nominal price, but shipping costs were fairly horrendous. Still we have it now - PEboxes aren't easy to come by here. Bought a reconditioned DS drive (full height for \$89 vs. \$225 for a new 1/2 height) and so we now have a backup system and can interchange disks. RS232 is now the only essential item we don't have a backup for, but we can get by for the time being as we have only 1 printer (a TI-99) and no modems.

I'll also include a disk of miscellaneous programs. Note the COLIST programs use volume name access to DSK.COLIST>xxx. Will's DISKHACKER works with CORCOMP micro box and the PEbox card. Work on his TI-MS/DOS program is in suspension until after the NSW Higher School Certificate exams are over.

In case I didn't mention it in the air letter, the best way to send donations is a postal money order made out to Will alone. Checks are still OK but the banks here are now slapping on a very fat service charge.

Anyhow, have fund with V.4.0.

Tony McG.

MODULE LIBRARY
by Tom Nellis

During the past few months the North Coast Users Group has been asking its members to donate any modules they no longer have a use for. These modules can now be leased by any member of the group for \$1.00 a month, a \$2.00 deposit is also required. The deposit will be refunded when the module is returned the following month. A \$1.00 per month late charge will be levied if the module is not returned the following month.

Following is a list of modules currently in the library: Personal Record Keeping, Alligator Mix, Car Wars, Microsurgeon, Munch Man, TI Invaders, Parsec, Munchobile, Personal Real Estate, Household Budget Management, Home Financial Decisions, Early Reading, Hunt the Wumpus, Blackjack and Poker, Indoor Soccer, Division 1, Star Trek, Equations, Meteor Multiplication, Blasto, Super Demon Attack, Adventure w/Pirate tape.

If you are having lots of children coming for Christmas, this would be the perfect way of keeping them entertained.

We are still accepting donations, and will make a deal with you of an "option to sell" if you would like.

The newest version of Funnelweb has been released by Tony and Will McGovern. This father and son team has continually updated this fareware product to include something for everyone.

The two big changes that the new version supports are:

CONFIG PROGRAM

This program allows you to set up the main menu with your favorite program titles.

The config program is an option that can be found on the main menu. This program allows the user to set-up the main menu, printer default and number of drives. As before any type of program can be executed from this menu, whether it be IB, memory image or Dis-Fix 80(Load and Run). The McGoverns strongly suggest that you "DO NOT" modify the load program directly, you must use the config program to change the Main Menu Defaults. What I did to configure mine was to list the load program from VER 3.4 to the printer. All the information needed to configure 4.0 can be found in the old load program.

TI-WRITER

The TI Writer now has several new features that Texas Instruments should have included when it was first released.

The older version always had an "end of file" line after the last line of text. The new version has replaced this line with column numbers. You now know exactly what column you are in by a simple glance. The word-wrap routine has been speeded up so you will no longer lose characters when a word is moved to a new line while typing. I have never experienced this problem before because I cannot type that fast. A chime now sounds when you are five characters from the right margin. The "SD" command could be defined as a poor man's Disk Manager. It has several features not found in TI Writer. The one I like best is, just page through your files, select the number next to the file you want, press enter, and you will return to the Editor. Type "LF" and Voila, the name of the file is already typed in for you, just press enter and the file will be loaded.

I perceive Funnelweb as an operating environment that you should never have to leave. Almost all programs that run on the 99 4/A can be executed from inside Funnelweb. Remember this is a fareware program. If you use it, "PLEASE", send a donation to the McGoverns. In Cleveland, we started a collection involving both groups. Most users won't take the time to send the authors the money they deserve, but if the group collects the money, everyone's 1,2,3,5 or 10 dollar donation will add up very quickly and the author gets his just reward, "\$\$\$".

WHEN IS IT TIME TO UPGRADE?

By Ron Albright - LA TOPICS - 11/87

There is a great deal of debate these days about which upgrade path users of the 99/4A computer should take. That is, of course, assuming these users have reached a point in their computer needs that upgrading is necessary. I think that is the key point in the whole issue. Have you come to that juncture? If TI-Writer is all you need for your word processing, and Multiplan, PRbase (or Total Filer), and Fast-Tera fill your spreadsheet, database, and communication

requirements, why upgrade? For those whose computer uses are related to home budget, education or learning programming, or short correspondence with friends, the 99/4A can, quite probably, still fill all those functions admirably. For all out those with unlimited resources (i.e. "money to burn"), the argument to change computers for the sake of using the "fastest and the latest" is fallacious. A home user does not need an 80286 IBM-AT or clone running at 16 MHz. Period. Their need for DBase III+ or Lotus 1-2-3 or all the features of Crosstalk XVI is equally questionable. Change for the sake of change is a luxury few of us can indulge in.

But there are times when one does need to upgrade to new technology. For someone who is using the latest spreadsheets or relational databases at work and needs to be able to carry some of that work home, then it may be time to think about buying a new computer. If one undertakes starting a home business and needs software to manage the books, or a complicated mailing list, or extensive graphics needs, there may be software available that might do these jobs better than what is available for the TI99/4A. For writers who plan the "Great American Novel", a word processor that can handle several hundred pages, or a thesaurus, or a 100,000 word spelling checker, or an out-line program, or an indexing software may be essential. The point of all this is a simple one. Before you buy anything, assess your needs. Then, look around for the software to fill those needs. Only at that point should you consider the hardware - a new computer. Find the best software available to fill your requirements, then pick the computer that will run it. Not the other way around.

Let me make one other point here. Look very closely at what is available to the TI before you decide it no longer fills the need. Get a catalog from Triton, Tenex, or Tex-Comp. Read Micropendium (P.O. Box 1343, Round Rock, TX 78688) or Smart Programmer (Byteaster Computer Services, 171 Mustang St., Sulphur, LA 70663-6724) and, of course, BBS's, information services such as 6Enie or CompuServe, or magazines such as Computer Shopper for advertisements and reviews. Check in with a local user group and find out what they know about software availability. Write JZ and me (and include a self-addressed, stamped envelope) stating your requirements and we will tell you if we know of similar software for the TI. If, after checking all these sources, you are absolutely sure the software is not available for the 99/4A and equally sure that you absolutely need the capability, then (and only then) are you ready to upgrade. The process of making the decision is time-consuming and a lot of work. But that is how it should be.

INTRODUCING THE GENIAL TRAVELER A Magazine-on-Disk for the TI-994A!

If you have a TI-994A with a disk system, you'll be interested in the Genial TRAVELER, an exciting magazine-on-disk which provides over 700 sectors of programs and articles in each issue.

TRAVELER is edited by Barry Traver, whose programs have been published in various TI magazines, including 99'er Home Computer Magazine, Craig Miller's Smart Programmer, Rich Mitchell's Super 99 Monthly, and MICROPENDIUM. He is also the author of ARCHIVER, the standard file archiving procedure used on CompuServe, Delphi, 6Enie, and the Source. He was the founder and first President of the Philadelphia Area TI Users Group. He is now a Sysop on both CompuServe and 6Enie.

He keeps in touch with the TI community in other ways as well, such as attending TI Faires in San Francisco, Chicago, Milwaukee, New Jersey, Boston, Providence (R.I.), Los Angeles, Ottawa, Seattle, and Washington, D.C.

The "diskazine" is actually priced less than some "freeware": you get a six-issue subscription for only \$36 (that's over 4000 sectors, so that you are paying less than a penny per sector!).

Authors whose programs and/or articles have already appeared in TRAVELER include Ron Albright, John Shenke, Barry Boone, Paul Charlton, Mike Dodd, Tom Freeman, Herman Geschwind, J. Peter Hoddie, Todd Kaplan, Jim Peterson, Wayne Stith, Mike Wright, Jonathan Zittrain, and others, including Barry Traver, whose ARCHIVER first appeared in TRAVELER.

The "diskazine" is being published on commercially-made SS/SD "flippies," so that the same format will work on everyone's disk system. It is assumed that subscribers will have at least a 32K memory card, Extended BASIC, and Editor/Assembler. (Warning: the publishing schedule can be somewhat erratic: it took about two years to complete Volume 1!)

TRAVELER SUBSCRIPTION FORM

Check one: Volume One @ \$36.00 (6 issues plus bonus disks)
 Volume Two @ \$36.00 (six issues)
 Volume One and Volume Two @ \$65.00

Name _____

Address _____

City _____ State _____ Zip Code _____

Please make your check payable to Barry Traver, and send it - along with this form - to Barry Traver, editor, Genial TRAVELER, 835 Green Valley Drive, Philadelphia, PA 19128. Thank you.

(ED Note: I subscribed to the first set and thought it quite technical for the "average user". Mr. Traver has promised more for people like me in this next volume. Just the other day I went through all the disks and pulled out what I could use and what I could contribute to the club's library that was public domain or freeware. The first issue of Volume 2 was to have been mailed in October. I have changed my mind and am going to renew my subscription. Hope you do too!)

CLYDE COLLEGE'S HIGH-SPEED CASSETTE LOADER

(The following information is excerpted from Mickey Schmitt's articles in the PUG Peripheral (Pittsburgh UG) from October and November, 1987. If you only have a bare console, you can install 32K memory "inside" the machine for under \$30. For an additional \$5, you can run many assembly language programs and increase the use and versatility of your system)

The assembly language routines that do the "saving" and "loading" of programs are loaded very easily from cassette tape and reside in an area of memory not usually used by Extended Basic programs. The high-speed cassette utility will allow the "saving" and "loading" of programs up to 24K of bytes in length.

In addition to increased program size, the same size program can be "saved" or "loaded" in approximately half the

T.I. VENDOR LIST

amount of time that the original routines required. The increase in speed is due to removing duplication of data sent to the cassette recorder. While this decreases reliability slightly, few errors have been encountered in use and error checking is still recommended. The size limitation was increased by writing directly to the memory expansion rather than to the console memory which the program was sent to by the original cassette routines.

While loading Clyde's program is not a difficult process in itself...understanding the procedure for the very first time can be a little confusing. With that thought in mind, I have tried to keep the "load" instructions as simple as possible.

INSTRUCTIONS FOR LOADING CLYDE'S LOADER:

1. Insert the XB module into the computer.
2. Select Option 2 - Extended Basic
3. Type : OLD CSI
4. Then : Press Enter
5. Follow the directions as they appear on your monitor or TV screen:
 - 5.1 # REWIND CASSETTE TAPE CSI
THEN PRESS ENTER
 - 5.2 # PRESS CASSETTE PLAY CSI
THEN PRESS ENTER
 - 5.3 COMPUTER DISPLAYS MESSAGE:
READING
 - 5.4 COMPUTER DISPLAYS MESSAGE:
DATA OK
 - 5.5 # PRESS CASSETTE STOP CSI
THEN PRESS ENTER
6. Wait for the flashing cursor to appear in the lower left-hand corner of your monitor or TV screen
7. Type: RUN
8. THEN: PRESS ENTER
9. The computer will then return to the XB screen with the message: # READY # and the cursor will once again be flashing in the lower left-hand corner of your monitor or TV screen. Clyde Colledge's High-Speed Cassette Loader is now loaded.

INSTRUCTIONS FOR USING CLYDE'S LOADER:

1. After you have loaded Clyde's loader,
TYPE: CALL LINK("OLD")
2. THEN: PRESS ENTER
3. You can now load in any program which you have on cassette in half the amount of time it would have normally taken.
4. Just follow the directions as they appear on your monitor or TV screen. That's all there is to it!

Clyde's Loader has two very special features that should not go without mention. First of all...the high-speed cassette routines are exactly the same as Texas Instruments cassette routines - making this program very user friendly. Secondly...once the load program has been placed in the 32K memory, it will stay in memory, even if you accidentally hit "Function Quit". Just retype "CALL LINK("OLD") and you are ready to go. You can't lose the "LOAD PROGRAM" unless you turn off the console!

If you wish to purchase this program, please send \$5.00 to: Pittsburgh User Group, P.O. Box 8043, Pittsburgh, PA 15216, ATT: PUG Librarian.

Here are some additional vendors from the list compiled by John Wilforth of the West Penn 99ers.

Horizon Ram Disk.....Provides the perfect upgrade for your system. DSSD Disk equivalent with battery backup. Very FAST! Comes as bare board w/manual/software, or assembled in either SSSD or DSSD models. The November NW Ohio 99ers news announces special prices of \$45 for PC board with manual and software \$38 PC board only, no minimum purchase. \$195 constructed 192K DSSD card with MANUAL, SOFTWARE and 90-day warranty.

HEIM INDUSTRIES....Has a statistics program. Requires 32K, P.O. Box 296 Basic, disk and printer. \$19.95 + \$3.50 Clifton Park, NY 12065 S&M

T.A.P.E. Ltd.....Mechantronics Products: \$Extended Basic II 1439 Solano PL \$Eproser & More. Ontario, CA 91764 1-714-989-9906

Forth Interest Group Complete support for FORTH enthusiast P.O. Box 8231 San Jose, CA 95155 1-415-962-8653

LISP INTERPRETER (Fairware) Charles Rentasesters....Send \$15 and one disk/mailer. In-410 N. Carroll St. complete but will be updated. FAST! Madison, WI 53703 Has 44 commands, supports recursion, 1-608-256-0725 includes brief primer.

SOFTWARE - GENEVE....AC-BASIC, AMOS, AC-PASCAL, AC-FORTRAN, AEI either available now, or nearly ready. 6700 Belsrest Rd, #723 (call). Soon to release 360K upgrade Hyattsville, MD 20718 for the original Horizon Ram Disk.

QUALITY 99 SOFTWARE...DH IV, DRAW n'PLOT, SCREEN DUMPII, 1884 Columbia Rd #1021 DB99, SPAD XIII, Much More. Washington, DC 20009-5161 1-202-667-3574

AMNION HELPLINE...."A Non-profit volunteer effort, free help 116 Carl St. to "orphan + Clone" computer users" San Francisco, CA 94117 9 to 4 (Pacific time), Non-Sat 1-415-753-5581

DISK ONLY SOFTWARE...9640(GENEVE), modified Myarc 256K and P.O. Box 244 512 cards for 9640, DELPHI start kit Lorton, VA 22079 and Help Disk. ORPHAN SURVIVAL HANDBOOK, Programs for the TI Home Computer, and Intro to Assembly Language 1-301-369-1339 Touchtone order: for the TI, LOTTO MANIA. PRO TEST 1-800-446-4462 and UTILITY, DRAGON STORM, PIRANAH, at tone enter CURRENCY EXCHANGE UTILITY, FLYING "897335" for re- FORTRESS FLIGHT SIMULATOR, KARATE, message. EPROM FOR HORIZON RAM DISK, GRAM PACKER, XB:BUG, AND TI WRITER TIPS AND TRICKS

DELPHI..You can use the TI information Network S16 on DELPHI by dialing your local Tymnet or Telenet number. AT the "Please Log In" or similar prompt, enter DELPHI. At "Username", enter "JOINT99". At "Password", enter "TELEDATA". For \$10 you receive a membership account, and 1 hour online credit. For \$29.95 you receive a User's Manual, Command Card, Membership account, and 3 hours of online credit. Rates at \$7.20/hr. 300-2400 baud and no network line charges.

PRINTERS APPRENTICE is written in FORTH and handles only it's own fonts, but has a scheduler function, which lets you have a lot of freedom in where you put graphics in your document. Don't let yourself be a captive to convention because of it's incapability to a font other than it's own. \$22.50

EPROM for 128K FOUNDATION CARD which allows you to run the new MYARC Extended Basic II software. You can get the EPROM for \$10 IF you purchase the Extended Basic II.

MYARC
241 Madisonville Rd.
1-201-766-1700

DataBiotics...Has quite a collection of hardware and software on cartridge and disk. Write for P.O. Box 1194 Palos Verdes Estates, CA 90274 (714)552-1244 catalog.

Millers Graphics Advanced Diagnostics, GK Utility, PROM 1475 W. Cypress Av SET for CORCOMP disk controller, games. San Diego, CA 91773 (714)559-1431

NAMELOC SOFTWARE...Designer Labels to be used with TI-Artist 3971 SE Lincoln LABELMAKER/CATALOPE/TINETRAVEL & TI-Portland, OR 97214 Artist & CSGD Graphic Support.

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CORCOMP...has some new things out. The "REAL" Ti/IBM conversion, a program on cartridge to move ASCII files from a TI DSDD disk to an IBM disk and vice versa, all on your TI system. Corcomp has a full line of controllers and support.

REVIEW OF KBM/99 KEYBOARD INTERFACE Robert E. Barnes - Brandon TI US - Oct. 87

I proceeded to install the KBM interface after assurances that it was compatible with my system. It is a very simple job should take an inexperienced person about 1 1/2 to 2 hours. There are 3 wires to solder on the motherboard inside the console. It is not within the scope of this article to include the details, but the instructions are easy to understand, and once you get the console open, you will see for yourself. The card is installed inside the console with some spacers provided with the kit, and the card is then plugged into the motherboard in place of the TI keyboard. You could, if you desire, make hardware modifications to enable you to use both the TI and new IBM style keyboards. However, I am of the opinion that there is little to be gained by this. The best idea is to leave the TI keyboard out entirely and obtain a small piece of plastic or aluminum to cover the void left where the TI keyboard was.

Obtaining the IBM style keyboard is another story in itself. The MSystems model KBM/99 interface card has been found to work with MOST IBM compatible keyboards on the market today. However, due to the nature of the Software Decode System incorporated in the card, some ODD models of keyboards have been found to function improperly. As of now, there are apparently 5 known keyboards that are compatible with the card. My keyboard was recommended by Mike since it was the one he was using. It is available from B.G. Micro, P.O. Box 280298, Dallas, TX 75228, and is advertised in the COMPUTER SHOPPER for \$29.95. Just make sure that the keyboard is IBM PC/XT compatible.

Now, for some additional information on the goodies of

this interface card. There are 30 pre-programmed function keys which allow you to enter many commands with the press of one or two keys. The first set of 10 function keys operate with only one keystroke. Some examples are: OLD DSK1., SAVE DSK1., LIST and RUN. The original ERASE, BEGIN, PROCEED, AID, REDD, and BACK remain the same as the old TI keyboard (but with a single keystroke). By pressing SHIFT and one of the function keys (2 keystrokes) you can enter PRINT, INPUT, OPEN #1, CLOSE #1, CHR(, RETURN, GOSUB, ACCEPT AT(, DISPLAY AT(. The other 30 pre-programmed keystrokes are obtained by pressing both ESC and a function key or CNTL and a function key. Many of the TI-Writer functions need only 1 keypress. The joystick is not affected by the ALPHA-LOCK on the TI keyboard, and there is even a load interrupt by pressing the keyboard PRTSC key when using a screen dump program.

As with all IBM style keyboards, there is a separate numeric keypad. The pad has preprogrammed keys for use with TI-Writer, for example: HOME, NEXT WINDOW, PAGE UP, PAGE DOWN, INSERT, and DELETE. The arrow keys are on the pad also.

I have not yet tried to learn what keys work with TI MULTIPLAN, but I am sure that the keys that work with TI-WRITER will also work with MULTIPLAN. All applicable function and control keys should correspond with the cards new keystrokes.

I used the OVERLAY STRIP program and made up some strips and attached them to the open space around the function keys. This makes it easier to learn the new card's functions. As a matter of interest the ESC key replaces the old TI function key, and if you wish, you can still press ESC and the corresponding key and perform the TI function rather than use the new keystrokes provided by the card.

If you wish you had an IBM style keyboard but don't want to pay the cost of a Rave99, I highly recommend the KBM/99. If you do a lot of XB programming, the KBM/99 is for you. If you primarily use your computer for word processing, the KBM/99 will fill that purpose also. That was my primary reason for getting this card and IBM style keyboard. I use my computer mostly for word processing.

(ED. NOTE: Chuck Gilbert of Northcoast has this keyboard and is very happy with it. For the other side, Ernie Malnar also of NC has the RAVE keyboard and will demo it at the December NC meeting. I am sure both would be glad to answer any questions about these keyboards if you are anticipating purchasing either of them.)

REVIEW OF ENHANCED DISPLAY PACKAGE

BY Paul Farber - Chicago Times - September, 87

This is a neat package that can assist and spice up your Extended Basic Programs. The closest thing that I can compare it to, as of now, is the STAR program that was reviewed some time ago. Like STAR the Enhanced Display Package is Fairware. The disk contains a short version of the documentation, with the complete copy available from Paragon Computing after you register the program. This is a copywrited program and Paragon wants \$10 for registration and

a serial number (more of this later), \$15 for all of that plus the complete user's manual, and \$30 if you also want the source code.

What the program does is to give you 33 new or different commands to add to your Extended Basic programs. The EDP program itself is loaded in and sits in an unused part of the 99/4A's memory while your other programs are running. The EDP loader can be modified so that it call on the program you wish to run or you can just load it and "manually" run your other programs. The 33 commands are all accessed thru CALL LINK statements and are fairly easy to use. Now, on to what some of the commands are. For a start, you have DISPLAY and ACCEPT, but are not limited on them to a single line of information as the maximum. Rather, it is now possible to display and/or accept information up to whatever size you specify (actually, the documentation states that 255 is the maximum size for ACCEPT, but says nothing about a maximum for DISPLAY). A clock can be set and called up (including an alarm function), which is a good way of keeping track of time within a program without a clock card. It would take quite a few pages to discuss all of the options that are available, but I'll mention a few: (1) Creation of Windows, (2) Flashing letters, (3) Change the screen from 32 columns (graphics mode) to 40 columns (text mode), (4) Redefinition of the ASCII codes up to 159, (5) The ability to set color combinations (foreground/ background) for 32 sets of ASCII characters (0 to 255), and (6) Screen scroll. For a nice demonstration of the capabilities of the Enhanced Display Package, the disk has a nice little demonstration routine that lets you check out each one individually.

Using these CALL LINK options you can put some pizzazz into what could be a dull program, or create some really neat options within an existing program. For example, how about writing a little routine using WINDOW, ACCEPT, and WRITE CALL LINKS that, at the press of say Control -S that pulls down a window, lets you make some quick notes, and then writes it off to a file on the disk. Nice little jotter routine, and all with about 5 lines of code!

Now, earlier I promised to tell you something about the serial number part of the program registration. Each copy of the EDP program has a serial number imbedded in it. This is the number that is registered to a user who has sent into Paragon Computing their money. Now, 90% of you out there have, I am sure (and I'm one of the guilty) used Fairware programs without sending the author any money. Paragon has figured out that a carrot is better than a stick so, once you send in your money and receive a serial number, along with the instructions as to how to change it on the copy of EDP that you have, you're encouraged to fully distribute the disk. Each person who registers for a serial number has to send in the one on the disk they are using. Paragon promises to rebate 30% of the contribution to the registered owner of the original disk. Who knows, maybe the real concept widely applied may get our cadre of programmers the money they deserve for all of those great programs they have given the TI community.

(ED.NOTE: I donated this program to the Northcoast library at the November meeting)

I have spent a lot of hours (too many) playing ASGARD Software's new adventure game, LEGENDS. This superb effort by Donn Granros and Ed Johnson rivals Infocom adventure games in the scope of its play, although it is not a text adventure as Infocom games are. In LEGENDS, a party of four adventurers with different abilities explore a land and its dungeons by means of a map which appears on screen and scrolls as the party traverses to different locations. The total map is many times as large as the screen. You spend your time monster bashing, collecting gold, solving puzzles, gathering intelligence, and building up the strength and ability of the party through combat experience and gathering better weapons. Periodically, you must make your way back to the home town of Wizard's Rock for R&R, reprovisions, and training the party members to higher skill levels. If all this sounds like Dungeons & Dragons, that's exactly what it is, of course.

Dungeons & Dragons at its best is exciting, imaginative, and takes some of the role playing skills of actors in improvisational theatre. At its worst, it is a mechanical exercise in dice rolling. In computer simulations of the game, it is much easier to achieve the latter than the former.

Infocom games (the Zork trilogy, Sorcerer, Enchanter, etc.) strive to look like the former through hiding the dice rolling quite successfully and concentrating on text interaction. In an Infocom game, by typing out the things you want to do in fairly free form text, you always have many possibilities for action and can pit your imagination against the creatures. It has always amazed me how many absolutely absurd things you can do that were anticipated by Infocom adventure authors. You are limited to things that they have anticipated, of course, but the limits are broad, and you rarely find the play mechanical. In LEGENDS, like in Tunnels of Doom from TI, you are much closer to the dice rolling. You can almost feel the dice roll as you engage in combat. Your characteristics such as experience points, hit points, magic points, etc., are displayed on screen whenever you fight. Your attacks on monsters are represented in points; your own wounds are represented in points, and so on. In this way, the outcome of combat is always displayed in numerical form. It's very artificial, but it's the way that D&D players have done it for years, and it is accepted as part of this type of game. The challenge to the authors, who have adopted this type of approach is to keep the game interesting through all the dice rolling. It takes a long time to build up sufficient skills and weaponry to survive against the bigger monsters and to explore the more dangerous regions of the large world of LEGENDS. It should take a long time, though! If it is made too easy, the game loses much of its challenge - a flaw that is found in many conventional D&D games as well as computer simulations. The authors have

achieved a very successful balance in juggling these different considerations - keeping it interesting while avoiding making it a giveaway game. Not all will agree with me on this. It does take some patience when you are challenged by a wandering party of Ruffians for the ninth time in the game, and you set out to bash them into submission like all the previous eight parties you met. But you need the gold they carry and the experience in fighting to copy with the challenges ahead of you. There are many opportunities for you to calculate wrong, too, and see your own party wiped out when it is at its weakest after a series of encounters. You have control of enough factors in the game - how you equip yourself, what magic potions you buy and carry with you, what difficulty level you set for the current venture, when you explore, how thorough your intelligence gathering is, what hidden puzzles you have figured out - to keep the game fairly fresh through the long hours of play. It is not nearly as confining as Tunnels of Doom. Patience is a prerequisite, but your patience will eventually be rewarded. Don't expect to finish the game in a day, either.

The game comes on two full disks (full in 4A terms) with a game booklet. If you have double-sided or double density drives, the booklet recommends you copy the unprotected disks to a single disk to preclude a need for disk-swapping during play of the game. Frequent reference to disks are required as the game is many times as large as the memory capacity of the 4A. You can speed play up even more by playing from RAMdisk, as long as you have close to 720 sectors of RAMdisk to use and can redesignate the RAMdisk as drive one. I have been playing the game from the 720k RAMdisk capability built into the 9640 as drive S, but to do so, I went through the copied disk and changed all references to DSK1 to DSK5 instead. The program autoloads from XDASIC, but since I have altered my XDASIC to look for DSK5 instead of DSK1 anyway, it all works fine in my setup.

I'm not going to try to give any numerical ratings to LEGENDS as many reviews do. The game will be stimulating to some and a bore to others. I think I have told you enough to decide for yourself which category you will find yourself in. The game is superbly conceived and executed. It is by far the best game of the dice rolling D&D type for the 4A. Nothing else comes close. If you have found lesser efforts interesting in the past (Granros' Old Dark Caves, Tunnels of Doom, the Doom of Modular series, etc.), you will be enthralled by this one. If you were bored by such games in the past, there is a chance that this one is so much better that it will interest you this time, but don't count on it.

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USING THE "IMAGEWISE" VIDEO DIGITIZER WITH THE TI-99/4A
By Steve Langguth - from West Penn - 10/87

For the past year or so, thanks to the authors of a couple of "RLE" programs, users of the TI-99/4A have been able to view and use high resolution pictures created by the users of other brands of computers. It was great being able to take advantage of all the picture files that could be found on the various online databases and BBS's. But it also made me realize that something was missing in the world of the 99/4A. Users of other brands of computers (even the 8 bit antiques like the Commodore 64 and Atari 800) had access to video digitizers, and TI users did not. Now, this might not seem like a very big problem to some users, but to those of us who enjoy working with computer graphics, it was. Notice that I said "was". Finally, users of the TI-99/4A can digitize images from video cameras and VCR's and put those images into a format that can be used by the various bitmap mode drawing programs available for our computer. This article describes how it can be done.

The hardware in the May and June 1987 issues of BYTE magazine, Steve Ciarcia (BYTE's resident hardware genius) described a video digitizing system that he had developed called the "ImageWise" system. This system is composed of two parts, a "digitizer/transmitter" and a "receiver/display". Each of these parts is contained on a separate circuit board. You can buy each board already assembled or in a kit with all the needed components. Or, you can just buy the printed circuit boards (with an EPROM containing the control software) and then buy all the other necessary components yourself. I chose to buy the components myself, and the two parts of the system wound up costing me a total of about \$150 each.

When the boards arrived in the mail, they came with detailed instruction manuals and parts lists, including the various part numbers for several of the larger electronics supply companies. Even though I had never attempted a hardware project before, I had little trouble getting everything put together. (I DO have a friend next door, who is a 99/4A hardware "genius", so I could afford to be a little "braver" than I would have been if I had to attempt a project like this totally by myself!) And once I finally got all the components soldered into the correct holds (don't ask!!), both boards worked great.

The digitizer/transmitter (D/T) board is, as the name implies, the part of the "ImageWise" system that does the digitizing. Unlike some digitizers made specifically for other computer systems that take several seconds to digitize a complete image (and therefore require your "subject" to not move or your VCR to be set to "Freeze Frame"), the ImageWise D/T board captures a complete image in 1/60th of a second. It accepts video signals from a standard TV camera (either BW or color), VCR, laserdisc player, or camcorder, and stores the picture as 244 lines of 256 pixels with 64 levels of grey scale for each pixel. The D/T board then converts the stored video image to RS232 serial data which can be transmitted to any computer with an RS232 port or to the ImageWise receiver/display board. The receiver/display board (R/D) accepts serial data from the D/T board or files downloaded from a computer. It converts this data back into a picture suitable for display on a composite video input monitor.

Together the two boards allow the user to create a file

of digital data that represents an analog video image, use a computer to manipulate this file, and then display the newly "manipulated" image. The July and August 1987 issues of BYTE magazine both contain articles describing interesting image processing techniques that can be performed on files created this way.

The software as I stated earlier, each board comes with an EPROM that controls what the board is doing. But you still need programs for your computer that allow you to accept the data being sent from the D/T board to the RS232 and to send a data file from your computer to the R/D board. Also, if you want to display the digitized images on your computer monitor, you need a program that converts the datafile into a form that your computer can use. If I were an IBM PC user, this would have been no problem, because the boards come with a disk containing programs for the PC that both "grab" and "show" images. But because my little 99/4A is an "orphan", I had to write these programs myself. To "grab" a digitized image from the D/T board, you simply connect the DB-25 connector on the board to the RS232 on the computer. The program needs to send a one-byte code to the board to tell it what resolution to use (the choices are 256X244, 128X122, and 64X61), then when the program sends to the board a character >II (IXON), the board "instantly" digitizes the picture and begins sending it to the computer. (The baud rate being used is selected by a DIP switch on the board itself.) If the computer must take a "time out" to write to disk, the program simply sends a >I3 (IXOFF) and the board stops sending until it receives another "IXON". The file created by this program is LARGE. The board sends one byte for each screen pixel. The values of these bytes range from >00 for black to >3F for a pixel that is white. This adds up to a file of 244 sectors for each picture digitized. Of course, the file contains a lot more "data" than 99/4A users can use, because even though our high resolution screen is 244X192, we only have 15 colors to work with and each pixel cannot be colored "independently". Perhaps some of this data will be put to use on the Hyarc 9640.

To "show" a digitized image on the R/D board, the process is just reversed. A file is simply read one record at a time and then sent to the R/D board via the RS232. I found that I had to use assembly language to write the "grab" program, but a very simple XB program worked fine for the "show" program. Finally, because I wanted to use my digitized images on my 99/4A, I wrote a program that will "convert" the information in the files created by the D/T board into a picture that can be saved in TI-Artist format. At first I decided to simply "turn on" a pixel if it was above a certain value and leave it "turned off" if the value was below the "dividing line". Unfortunately, this simple method really didn't give as much detail to the pictures as I knew was possible.

After a lot of experimentation, I was able to create an "algorithm" that turns on more pixels in the areas that are supposed to be darker, and less in the lighter areas. The converted picture has much less resolution than the original, but it CAN be saved as a TI-Artist picture file (25 sectors), which can then be modified or printed out. If you would be interested in buying the programs I wrote to use with the ImageWise system and the 99/4A, I will gladly sell them to you for \$10-\$11, if I have to supply the disk (hey, I've got to pay for this baby somehow!!!).

Steve Langguth, 2956 South Barnes, Springfield, MO 65804

This game was on the Genial TRAVELER diskazine Vol. 1. No 4. While there is always a lot of interesting stuff on the diskazine, this game rapidly became my favorite. It does not depend on how rapidly you can work a joystick or how many "laser missiles" you can save. It only depends upon the deal and how well you can manipulate the cards to get them in the proper order.

First, let us describe the game layout and the rules of play. The cards are dealt in random order into 13 columns of 4 cards each. That is simple enough. Then play begins.

In order to win the game, the cards must be stacked into four piles above the main card layout. Each stack above must start with an ace and continue in suit up to the king. Only cards at the bottom of the columns can be played to the top four piles. This is done by the computer when you press (1) to start the game and anytime you press enter, if there is a playable card at the column bottom.

"Fine" you say "but how does one get a card to the bottom of the stack after the initially playable cards are already moved up?". Well, the bottom card on each column can be moved to the bottom of any other column where there is a card of the same suit and either one in sequence higher or lower. Thus, the 3 of hearts, can be played to a column bottom where there is either a 2 of hearts or a 4 of hearts. By doing this, the column which contained the 3 now has a new bottom card which can be played to the top. If it is playable, you can then press enter and the computer will stack it in the appropriate pile above the main layout.

When the game is first loaded and the title screen ties out, the computer deals the layout, letters the columns so you can type the letters to indicate from and to which columns you wish to move cards, and prompts for you to press one of four option keys. (1) begins the game at which point the computer prompts you to wait while it searches for cards which will play to the top four piles. When all available cards are moved to the top, it then prompts you to move a card from one column to another. This continues until you have moved all available cards, or until a card is available to be moved to the top and you press enter. When all moves to the top are completed, you are prompted to make the next series of moves, or congratulated upon your win if all the cards have been stacked to the top. If you have won, then you are given the option to play again or quit and are informed as to how many games you have played, how many games you have won, and your percentage of cards moved to the top in all the games you have played. (2) allows you to redeal the cards before play begins, and you will want to do this fairly frequently since some deals will have the cards stacked in a manner which will make it impossible to win the game (I leave it to the reader to figure out how to recognize

such deals since it will become obvious after only few times playing) (unless, like me, you happen to be a complete idiot at this game - NBD). (3) will let you review the rules of play which are much simpler than they appear here since I am trying to include some simple hints and strategies in this review. (4) lets you quit the game.

There are a few more key presses which are explained in the rules. These are "R" which lets you repeat your last move, "FCTN1" which lets you undo your last move (in case you boo-boo), "FCTN2" lets you start the next game when you get to a point where it is impossible to continue or win the present game, and "FCTN9" which allows you to replay the deal which you are presently playing. This is useful at times when you make a series of moves which make the game impossible to win, but which allow you to see how to move differently and, perhaps, win. Also, since I am not interested in competing with myself in terms of a winning average, I usually use "FCTN9" to go back to the original deal if I'm stumped and then press "2" to redeal so the loss isn't counted.

I guess this is one more example of using the computer to simulate a board game, but with a 3 and 1 year old roasting throughout my house, I find it much easier than trying to locate a full deck of cards when I get ready to play. I'm not into giving grades to anyone's hard efforts at creating software, but, for me, this program is fine. It is convenient when I want to relax and play a game, the graphics are first rate, I don't have to be at top reaction times, and is mentally challenging enough to keep my mental gears oiled. Anyone who plays it will soon realize that planning several moves ahead will be advantageous to say the least. I, personally hope that Malt can be encouraged to write other, similar, games (possibly even Cribbage?).

I guess I should mention that in the version I have there are a couple of bugs, or, more accurately, minor annoyances that are supposed to be eliminated in later versions. One is the "FCTN9" keypress. If one is so inclined, he can keep a perfect score no matter how many games he plays by doing like I do and just counting the games he totally wins. Not such of a bug is it? The only other one that sometimes annoys me is that occasionally I find it necessary to stack more cards in one stack (column) than the software will accept. If I need more than that in one stack, I am not aware of any other course of action than to trash the game in the middle of play and start fresh with the same deal (trying to alter the play to avoid the same trap) or get a new deal. Lest I place too much weight on these minor annoyances, let me repeat, "Great job, Malt Howe!"

(Editor's note: I recently went through my Genial Traveler disks and pulled out all that were labeled as FREEMARE or Public Domain and put them in the club's library. Chainlink is one of those. I agree it is a challenging, addicting game. Deanna)

At last! A direct equivalent for the popular, but out-of-production GranCracker has been designed by an engineer in Massachusetts. It's called the Granulator.

A wire-rapped prototype was demonstrated to the Magnetic User Group in Andover, MA at their September meeting, and it performed flawlessly. The Granulator offers virtually all of the features of the GranCracker, but is targeted to cost less.

No production Granulators have been built yet. To go from a prototype to a production model requires an investment of about \$1,000. As with anything else, the more that can be made in one batch, the cheaper they will be.

You are invited to respond to this offer if you would consider purchasing this product. Technical questions are welcome. Please write to: Mark Van Coppenolle, 52 Audobon Road, Haverhill, MA 01830 (617)372-0336.

FEATURES:

The Granulator simulates 64k of GRAM and 16k of RAM (in two 8k banks at >6000->7FFF).

- 1) You can customize the built-in TI operating system in GROM 0 and TI Basic in GROMs 1 and 2.
- 2) You can backup your GROM and ROM cartridges to disk to protect your investment and reduce wear on the cartridge port. All TI, Atarisoft and Parker Brothers cartridges can be backed up. (Does not work with MBX).
- 3) Acts as a "Super Space" cartridge allowing you to

run programs requiring RAM at >6000->7FFF (including Myarc's XBII).

- 4) Allows you to use a customized GROM 0, or 1 and 2, while a cartridge is in the slot. One application is that you can use your own character set with a cartridge like TI-Writer.
- 5) Capable of loading user written GPL code.
- 6) A total of 80k of memory with lithium battery backup

The software needed to load and save GRAM and GROM will be built in for instant access. A memory editor, which will be supplied on disk, will allow you to alter and save any program loaded into the built-in GRAM or RAM. User documentation and technical information will be included.

Memory expansion and a disk drive are required to take full advantage of the Granulator.

(NOTE: The above was taken from a flyer which came in the November newsletter from the Boston Computer Society.)

FOR SALE:

MiniMemory \$35.00

128k Foundation RAM card. Trade in your 32k card for RAM disk capabilities. \$100.00

E/A module with Manual \$22.00

Box Editor Assembler on tape \$15.00

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