CLEVELAND AREA 99-4A USERS GROUPS NEWSLETTER

FEBRUARY, 1987

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There is an announcement in this newsletter by Millers Graphics ("MG") which came from GENIE via a TI bulletin board about a TI/IBM compatible machine. You will see from my comments that I do not feel this is a true upgrade for the TI. We live in a "grass is always greener" society and think we are missing out on something by not having the "latest" in technology, whether it be our cars, VCRs, TVs, etc. The DOS world is much more complex than the TI world. And as an owner of both systems, I find that the TI is fully adequate as is for home use. I gain more respect for TI-Writer every day. It has been much maligned, but I find it one of the more versatile word processors around. As stated elsewhere, it is taking 3 "fancy" word processors to accomplish what I take for granted in TI-Writer. So, don't be discouraged. Look at the latest list of new FREEWARE items in this issue and SEND for them. If it were not for business purposes, I feel the TI is the only computer I would ever need for my home use.

Moving right along, if you did not fill out the questionnaire in last month's newsletter and send it to Marty Smoley, I urge you to do so. We are trying to make the user groups "your" groups and can only do so if we know what you want. Even if you do not belong to NorthCoast, Marty will share the information he gets with the presidents of the other groups so that it can give them some indication of what types of programs, SIGS, etc. you want.

Ernie Nitschke reported at Northcoast's meeting that we got about 500 new programs in our recent trading session. If you want them cataloged before you get them and run them, better start volunteering, or else you may never see them show up in the various clubs' libraries. There are close to 150 members in the combined Cleveland clubs and it just isn't right that one or two people do all the work. It was my hope when I did it that it would inspire people to go out and get programs on their own and donate, or learn to write programs, whatever. But after a year and a half of finding that only about half a dozen people seem to really care about sharing what they come across, I have decided that if I had to do it over again, I simply would not. A disk of programs can be cataloged and written up in an evening. You have the opportunity to see the latest software before anyone else, learn something about programming, etc. You are the one who will benefit as much or more than the club.

If you have a modem and have not called the FREE-NET lately and checked out the TI-SIG, you are missing a lot of goodies. This is where we FIRST learned of the IBM/TI announcement from MG. Terry Vacha keeps the latest news posted in the news section, Dave Talan has been calling bulletin boards throughout the country to see what is hot, and Tom Mellis has been acting as the technical person. It seems to be a great combination and one of the more interesting computer SIGs on the FREE-NET. Keep it up guys.

Ron Albright mentioned the Cleveland Area groups at the end of his TI-Forum column in February, and "small world", I have gotten two requests from people in Lakewood for information on our clubs. There are still may people out there looking for a UG and just don't know where to find them.

EXECUTIVE NOTES - TI-CHIPS

Congratulations to our 1987 officers:
    President - Terry Vacha
    Vice President - Russ Shimandle
    Treasurer - Lin Shaw
    Secretary - Mary Phillips
Committee chairmen are:
    Membership - John Parken
    Library - Disk - Mark McCauley
    Tape - John Parken

The January meeting featured some great demonstrations as well as a raffle of a computer calculator which was won by Terry Vacha - a nifty surprise for the new President.

Mark McCauley demonstrated "Rapid Copy" which can copy a disk in 50 seconds. He also demo'd some calendar programs available in the library. Matt Andel presented Logo, Part II, creating and moving sprites. Les Kew talked about the Super Cartridges he built, showed us his, and demonstrated what it can do. This cartridge is very useful which is an understatement.

Terry Vacha demonstrated FREE-NET. With the aid of TI-Writer he simulated being on the phone, showed how to use FREE-NET and explained it's many uses.

Thanks to all of the above and those who worked behind the scenes to put it together. See you on February 21 at the North Royalton Public Library at 10:00.

JAN FEDOR

EXECUTIVE NOTES - NORTHCOAST

I would first like to thank everyone for the great help I got during my presidency. I didn't believe I could do it, but with such good help, it wasn't that hard.

I am sure the new officers will do a fine job and get your support and help. Each one of us should do some small part such as, list the programs on a new disk and tell what the program does (maybe one or two hours work, and it doesn't have to be in one sitting). I think we would all like to thank Deanna for her find job as Librarian. She has done a fantastic job, far above what is expected of the position. I hope Deanna will continue the great work she does on the newsletter. The January meeting had a good turn out with a couple of new members joining. Please check your label for your dues date. Frank had a list of people past due.

Judy Thalner filled us in on the new machine coming from Myarc and selling for about $500. And, I'm sorry to hear that Craig Miller went to Triton with his IBM compatible expansion box. The system sells for about $500 and includes one drive, video board, and a switch box. You can use your TV or monitor. Your TI console is the keyboard. $$The do not sell to local dealers .$$ Many will welcome this cheaper entry into MS-DOS. Personally, I would rather see more done to bring out the power of our orphan. I believe the TI memory could be expanded to run larger programs like IBM. Paul Wheeler gave a great demo on Pre-Scan IT from Asgard. By inserting prescanning into the beginning of the demonstration program, the load time was decreased from 26 seconds to two or three seconds. Most XB programs could use this treatment. It is a bargain at (approx .$9.95). The February meeting will feature Frank Jenkins' indepth demo of PRBASE. We may also have a report on the new Myarc machine if it comes early enough. See you at the February meeting. RON MINADEO

EXECUTIVE NOTES - NORTHCOAST

HELLO! My name is Martin Smoley. I have been with the NorthCoast 99ers for several years as a member, and part of the time as Vice President. I have a system which is quite complete, and I consider myself an enthusiastic 99/4A User.

The reason for the short introduction is my way (as the newly elected President of NorthCoast) of beginning what I hope will be a personal friendship with each and every one of the local 99/4A users. I hope to find out what your needs and interests are, and guide the club in a direction that will be most benificial to all our members.

At this time I would like to thank Ron Minadeo, and all of the past executives of NorthCoast for the time and effort which they gave to our club. It takes a lot of drive and dedication to give up your spare time, as well as your manual labor for a job that doesn't pay any money. I will add at this point that Ron has volunteered to do a demo at some future meeting and plans to stay active in the club. I hope this involvement feeling rubs off on others. I would also like to thank all of the new and old executives and volunteers who are getting fired up for the new year of 87.

I hope this will be the beginning of a big future for all of us. There are large numbers of 99/4As out there. All we need to do is combine them with users and then get those users to join one of our local area clubs. This will revitalize our plans for the future. " OK enough retoric. "

MEETINGS: Regular meetings will be held in the Euclidian Room at the Euclid Square Mall on the dates I have listed. Meetings will start promptly at 1:30 PM with a short copy session prior to the meeting.	Regular Meeting	Newsletter Committee
	02/21/87	02/28/87
	03/21/87	03/28/87
	04/18/87	04/25/87
	05/16/87	05/23/87
AGENDA: Most future meetings will consist of regular club business, with a very short intermission for setup of a major demonstration. The demo will be on items of general interest taken from the survey.	06/20/87	06/27/87
	07/18/87	07/25/87
	08/15/87	08/22/87
	09/19/87	09/26/87
	10/17/87	10/27/87
	11/21/87	11/28/87
IMPORTANT: Fill out those surveys.	12/19/87	12/??/87

After the demo we will have another short break to allow anyone who wishes to leave. At this point I hope to have a small seminar, with a demo of some software, and a question and answer session. Topics will be TI-Writer, Funnel Writer Extended Basic, Basic, Pascal, c99, etc. .

NorthCoast Meeting = PRBASE

At the last meeting we didn't have sufficient time for Frank Jenkins to do the demo of PRBASE, which is a lucky thing for those of you who would have missed it. Its on again for this meeting and it should be a great kick-off demo. We will have two color monitors and one B&W plus whatever hardware may be needed to put on a real show. PRBASE is one of the best Data Base programs available for the 99/4A and it's in our library as freeware.

$$$$ Don't miss this one!. $$$$

** PC PURSUIT **
(TERRY aa259)
CLEVELAND FREE-NET - 12/16/86

WHAT IS IT? It is unlimited phone service to call long distance via computer to BBS' for a flat $24/month. There is also a $25 "installation" type fee. The $25 start-up fee gets you the "secret" codes to send through Telenet via your computer. Currently a total of 14 cities are part of the network.

The hours are 6 pm to 7 am Monday through Friday, all day Saturday, Sunday, and holidays. People in Cleveland can now get the service, but Cleveland cannot be accessed by others until January, 87.

HOW DO WE SIGN UP? Call Steve DelRocco at 1-800-368-4215. Be prepared to give your Mastercard, Visa, or whatever number so they can take your dough for the service. Steve says it takes about a week normally before you get your access codes through the mail. If you call and ask, he will also send you a pamphlet.

Happy Modeming!

(Ed Note) One of the fellows in my IBM UG has joined this service. He says you can't beat the price and he does spend untold hours calling boards and downloading programs. The problem arises when you gain access to a city, but the board you are calling gives you a busy signal. Unless your software is smart enough to automatically dial another number within that city, you have to go back to scratch and start the process over again. I am not sure what that entails, but when the service first began, you had to have voice verification by an operator who did the dialing for you. It may have become much more sophisticated since then. As of our UG meeting the first week of January, Cleveland still wasn't added. I believe that something like 12 more cities were to have been added at that time.

UNIVERSAL DISASSEMBLER
BY: Paul Neumeyer - Northcoast 99ers
Forth Review and Overview

Our club library has a fine disk disassembler and utility. While it will serve many purposes, I especially like to use it when working in Forth. It's disk #10 in our excellent set. Let's play around with it a little.

To load the Disassembler, go to E/A, option 3 and enter DSK1.UNIVERSAL. From the command screen, which offers 8 selections, I recommend that you select HELP and carefully read the instructions. If your mind is like mine, you'll forget most of the instructions by the time you finish reading. My Mind's like a leaky bucket; the only way I can keep it full is to keep it under the spigot.

So, get yourself a spigot, by printing the HELP screens. To do this, enter the HELP screen # PLIST. Start at 14 PLIST and continue, one screen at a time, through 24 PLIST> Isn't this a nice Forth utility--a method for printing a given screen?

Now, let's enter START. This will take us back to the main menu screen. n LIST will list any block to the screen. Since I had trouble loading this disk, after I finally got it in, I used this instruction to locate a sector error in screen #75.

Move on to the printer instructions. Enter PRNTMODE. Here you can set your printer by entering the appropriate word. First, check to see if the configuration is what you want. So, enter .CONFIG. To change the configuration enter CONFIG. For example, to change from a 2-disk system to a 1-disk set up, enter CONFIG. Then enter #DRIVES. After the = sign, enter 1. If you wish to make the new configuration permanent, enter SAVE_CONFIG.

I could not make the SCREEN COLORS instruction work on my disk. If anyone figures this one out, let me know.

Use BACKUP to copy a Forth disk. Simply follow the screen instructions. On a 1-disk drive, it copies 4 screens at a time. That's a lot of switching, but it's good for elbow exercises.

By the way, FCT.0 will dump any screen (except when system is utilizing a DSR). I found this a handy utility and find myself using it more and more. I dumped all the menu screens and kept them with the HELP printout.

BADSK instruction will disassemble the disk, and can be used with a 1 or 2-drive system. A menu of 6 instructions comes up. DIR produces a disk directory; DMP dumps a disk sector to screen; FIL analyzes disk files; DIS disassembles a disk sector.

Go back to FIL. After entering FIL, enter a file name, and it will read out the file type, size, offset, and starting and ending sector. After entering DIS, the disassembled opcode scrolls on the screen. By hitting any key, you can stop the scrolling. As the code flys by, each sector is identified.

SSS will make a disk sector ASCII string search. Simply enter a string and sector range for the search. The computer will tell you at which sector the string is located, and give its offset. SHS will do the same thing for a hex string.

DMMEM disassembles the memory. After enter this word, a menu pops up. SET_DSR offers you the choice of disk controller card, RS232, thermal printer, P-code, turn off all DSRs, or other DSRs. Select one for memory mapping.

$ DIS sets the low high of the memory disassembled.
$ DUMP will dump the selected memory range.
$ VDUMP will dump VDP memory.

This disassembler disassembles directly from disk, so don't load in another program.

In this review, I have spent more space on the utilities than the disassembler portion of the program. I did this because advanced users will have no trouble with the disassembler portion, but the rest of us will shy away from this disk unless we can see how we can use it.

You can profitably use the utilities portion and ignore the more complicated parts. In fact, the more I use this disk, the better I like it.

Reading books on exercising are fine, but only actual exercises can contribute to belly reduction. The same works with programs. So, get at that console and try it--you'll like it.

IBM COMPATIBILITY FOR THE 99/4A
DOWNLOADED BY DAVE TALAN - NORTHCOAST 99ERS

TECHNICAL INFO:

1. Two-part system. A TURBO XT and a small bridge box that connects to the side I/O port on your 4A.

2. The TURBO XT is an 8 Mhz, 4.77 Mhz (switchable) mother board, power supply, XT style case, CGA color graphics card (both RGB and Composite), Floppy disk controller, 1 half height DS/DD disk drive, parallel port and 256K of RAM on the mother board. The mother board has sockets for up to 640K of ram. There are 8 expansion slots, two of which are used by the CGA card and the floppy disk controller.

3. The bridge box has inputs for 4A Video in, XT Video in and outputs for XT keyboard out and monitor out. It also contains the software for keyboard switching between 4A mode and XT mode and the software to convert the 4A key strokes into XT keycodes. It also has a pass through so you can keep your P-Box or other periphs hooked up.

4. Mode switching from 4A to XT can be done through Basic or X-Basic with CALL XT or by holding FCNT CTRL ENTER on power up of the 4A.

5. Mode switching from XT to 4A is done by pressing FCTN CTRL ENTER.

6. The ONLY items shared by the two systems are the 4A keyboard and your current monitor or TV. Yes, you can get 80 columns out of a composite monitor, but it is easiest to read with the color turned off in 80 mode. The XT allows MODE 40 which also gives you 40-column mode. Graphics programs, such as games and drawing programs work fine in 80-column and most other software that doesn't combine weird foreground and background text colors are also quite readable.

7. By not sharing the disk drives, it is possible to do concurrent processing on the XT. Example: Go into XT mode, start up your COMMUNICATIONS software, log on to a BBS and start a download. Now you can switch modes back to the 4A and do whatever you would like in 4A mode while the XT is still downloading from the BBS!!!

8. We have tested this system on a number of 4A system configurations and have found it to be very compatible. Since it is an IBM clone, it is also fully compatible with both IBM software and IBM HARDWARE. Yes, you can add ANY IBM cards you would like to the system.

9. The minimum 4A system requirements: a TI994/A console and a monitor or a TV set with RF modulator.

GENERAL INFO:

1. This system is being marketed by Triton Products Company in San Francisco, CA. They are also handling the production of the bridge boxes and they have contracted for the TURBO XT clones to their specifications.

2. The system has a 30-DAY money back guarantee and a 1-YEAR parts and labor warranty.

3. The cost for this system (TURBO XT, Bridge box and cables) is $499.00, plus $19.90 for shipping and handling.

4. Their toll-free number for additional info and/or a 6-page 4-color brochure on this system is 800-227-6900, Monday through Friday - 6 AM to 6 PM and Saturday 9 AM to 4 PM, Pacific time.

5. Delivery is scheduled to start on March 1 of this year.

We have been using this system for awhile now, and we are very pleased with its performance. This isn't vaporware, ALL R&D, testing and software is complete, and the units are ready for production, so the March time frame is a reality.

At last a MAJOR expansion for the 4A. We hope you are as pleased with this product as you have been with our other products in the past. As the Triton brochure says: MAKE THE IBM CONNECTION TO YOUR TI99/4A.

-------------MG-------------

MODULATOR MODIFICATION
ROM - DECEMBER, 1986

The widely available RF modulator ($14 at Tex Comp, $5 at Radio Shack, and 50c at local garage sales) has a 300-ohm output from a center-tapped impedance matching transformer. This transformer can provide a 75-ohm source, if you want to use coax in place of the twinlead. Just pry the top and bottom covers off; unsolder and remove the twinlead stub; solder in a coax stub with connector (center lead to one of the holes marked RF OUT, shield to ground); and your're in business. If you want to be fancy, use a chassis-mount connector.

If you use a monitor, as well as a TV, you might want to consider something just a little more elaborate. The Transfer/Isolation switch can be rewired to provide either modulated RF or composite video. (Audio and video are routed through RCA type jacks mounted where the tv-antenna-in connector used to be.)

This mod requires circuit board surgery via Xacto knife and soldering iron. Keep in mind that the TI switch is coupled to the power switch, and the power is off in the TV ANTENNA position.

CORPORATE STRUCTURE
FROM THE BOISE, ID JAN, 87 NEWSLETTER

PRESIDENT: Leaps tall buildings in a single bound. Is more powerful than a locomotive. Is faster than a speeding bullet. Walks on Water.

EXECUTIVE VICE PRESIDENT: Leaps short buildings in a single bound. Is more powerful than a switch engine. Is about as fast as a speeding bullet. Walks on water if the sea is calm. Talks with God.

DIVISION MANAGER: Leaps short buildings with a running start and favorable winds. Is almost as powerful as a switch engine. Is faster than a speeding BB. Walks on water in an indoor swimming pool. Talks with God if a special request is approved.

PLANT MANAGER: Barely clears a quonset hut. Loses tug-of-war with a locomotive. Can fire a speeding bullet. Swims well. Is occasionally addressed by God.

SALES MANAGER: Makes high marks on the wall when trying to leap buildings. Is run over by a locomotive. Can sometimes handle a gun without inflicting self-injury. Dog paddles. Talks to animals.

SO YOU THINK YOU WANT THE TI/IBM CLONE!!!
By Deanna Sheridan - NorthCoast 99ers

Elsewhere you will see the announcement by Millers Graphics of the so-called upgrade for the TI to use IBM programs. As I read the announcement, it is "not" an upgrade for your TI. Rather it is an IBM clone on which you can use your TI keyboard. A true TI upgrade would be one that would give you an economical way to add the 32K needed for most programs, an RS232 and disk system. If you do not now have these items, the TI/IBM will NOT let you run TI disk-based software. It gives you no more use of your TI than you had before. Instead you will find that you have an IBM with a TI keyboard for all practical purposes.

With the price of the clones dropping almost daily, you might as well have two complete systems and have the use for an IBM style keyboard for your IBM. I was personally very disappointed by this announcement as I cannot see how it is going to help keep our TI alive. Instead you will see the demand for TI software decrease (which can only hurt) and that for IBM type software increase.

If you do go the clone route, you may be quite surprised to find that it is even dumber than your TI. After being used to having my TI fire up with a nice welcome screen, all ready for me to type in a program or load some software, it was a real shock to turn on my Epson compatible and find that there was nothing but a black screen with a little C> at the bottom. I had a hard disk so that my DOS (Disk Operating System) had already booted. On a floppy-based system, you have to insert your DOS diskette each time you boot before you can do ANYTHING. Commercial diskette based programs will boot without DOS if they include the Command.com file. Otherwise you have to run DOS BEFORE you do anything else. Some DOS commands are resident and others are not, so you will find yourself constantly reinserting the DOS diskette as programs require certain commands.

DOS is a whole new set of commands and utilities which you will have to master. After getting over the shock that I was stuck with the black and white screen (at least for awhile), I went out and spent $40 on books to tell me how to use DOS and write my own colorful screen menu program. You will have to learn about "Batch" files, directories and many other things that are taken care of automatically for you with the TI.

Want to run a Basic program? Get out the BASIC diskette and load Basic before you run the program. Again, better get used to the black and white screen until you learn a few tricks. Getting color in basic was fairly easy as I wrote a small program with the screen colors I wanted and when I load Basic I load this program. But, if I run a basic program, the colors aren't permanent and if I want to do some programming, I have to redo my screen.

What kind of software do you think you want to run on this fancy machine. Remember, you are used to paying $10 to $40 for some excellent games, utilities, etc. for the TI. I have 3 word processing programs for the compatible and if TI-Writer would support 80 columns and have decimal tabs (I do a lot of statistical typing), it would be my number 1 choice. It is versatile and easy and the transliterate command lets you do almost anything you want. I spent hours trying to get my other 3 to do something TI-Writer does without a hitch the other day, and none would. My word processing programs are the one I got with my Leading Edge (I know I said Epson above...long story), PC Write (A fairware program compared to Wordstar) and IBM Writing Assistant. These are probably the types you would be working with since how many of you can afford WordStar or Microsoft Word, etc. I still like TI-Writer best for versatility and ease of use. This is being written on my Leading Edge WP and it does a nice job if you don't want to get fancy with a lot of formatting within your document which I sometimes have to do with special accounting reports and I still revert to the TI-Writer.

I have an excellent general ledger package which would do all of your accounting, but you wouldn't want to spend as much for it as my boss did. Got a great tax package the other day (anyone want their taxes done reasonably?), but again you wouldn't want to have to buy it yourself. Same with spreadsheets. Would you have that much use for them for what they cost? Games? Why spend that kind of money on a computer to play games. The compatible does nothing for me on a personal basis that my TI would not do. I have the luxury of additional memory and that is about it.

Of course, one of the first things I did was to join a PC users group. They must be exciting after a TI users group, right? WRONG! It is a different world, you can say that much. How about the library. Must be lots and lots of programs available. They get their library disks from the PC SIG. You pay $2 per disk. You know you are getting a disk of utilities, or games, or word processing, whatever, but after that you are completely on your own. You have to go in and check out each program to see what it will do and try to find out how to do it. Files are not grouped. It is a real mish mash. They don't have to do any innovative hardware things such as adding 32K inside the machine, replacing cooling fans in PEB boxes, etc., etc. If they have any local programmers in the group, they don't have them featured in their library. They depend exclusively on the PC Sig and seem to have no other sources. The program presentations at the meeting have been varied and for the most part were not things that I could use on a personal basis. However, I have been fortunate enough to run into business situations since that because I was exposed to these programs, I was able to relate and be knowledgeable in conversations with clients, such as security, backup procedures for hard disks, and a database with its own language called "Mapper".

Speaking of hard disks. Now that you have a hard disk that can hold the equivalent of 60 to 90 floppies, you can get rid of all your floppies. Wrong again. Exactly one month after I purchased an Epson, the hard disk failed. Would not boot. I lost EVERYTHING. At least I had backed up the accounting clients I was working on each day, but all else was lost and I had to start over from scratch.

Still want to "upgrade" to another computer?

As noted in last month's newsletter, the Solon group donated an extensive library of books to NorthCoast. These can be checked out for one month and require a deposit of $1 to $5. If you have other books you are not using, we would be glad to accept contributions to expand this library. Dick is planning a series of articles highlighting the contents of this new resource.

CLEVELAND ARE 99/4A USER GROUPS NEWSLETTERS:
10/84;10/85;11/85;12/85;Jan 86 thru Dec 86.

THE BREAD BOARD - NEWSLETTER OF THE TIDEWATER 99/4 UG 2/86
Make Your Printer Print Sideways - Tom Freeman
Peeks and Pokes (Screen Color) - Barry Ensley
Screen Scroll (A/L) - John Behnke
Print 132 characters with TI-Writer

WASHINGTON D.C. AREA 5899/4A UG - 3/83
R199/4A Memory: Title Screen Headers

ENTHUSIAST '99 - MAY/JUNE 1984
Programming Hints
Put Your Money Where Your Mouth Is
MINI SPACE INVADERS - JOHN PHILLIPS (A/L)

COMPUTER MATHEMATICS - Hayden Book Co. 1975
1. The Numeric Nucleus - Introduction; The Numeric Calculus; The numeric Alphabet; The numeral; Operations and Operation Notation; The Numeric Variable; Numeric Expressions; Programming Considerations; Summary.
2. Numeric Operations in Any System - Introduction; The Operation of Counting; Counting in the Decimal System; Counting in Other Numeral Systems; Addition in Any Numeral System; Division in Any Numeral System; Summary.
3. Arithmetic Algorithms: A Computer's Point of View - Point Binary Subtraction; Fixed Point Binary Multiplication; Fixed Point Binary Division; Floating Point Numerals; Floating Point Binary Addition; Floating Point Binary Subtraction; Floating Point Binary Multiplication; Floating Point Binary Division; Summary.
4. Base Conversion - The Conversion Function and Numeral Expansion; Integer Conversion-Nondecimal to Decimal; Integer Conversion-Decimal to Nondecimal; Fractional Conversion-Nondecimal to Decimal; Fractional Conversion-Decimal to Nondecimal; Summary.
5. The Logic Calculus - Introduction; The Logic Calculus; The Logic Alphabet; Numerals in the Logic Calculus; The Logic Variable; Logic Operations and Truth Tables; Negation; Conjunction; Disjunction; Implication; Equivalence; Logic Expressions; Evaluating a Logic Expression; The Logic Statement; Summary.
6. Formula Functions and List Functions - Introduction; All Possible Input Valuations; All Possible List Functions; Converting a List Function to a Formula Function; The Sheffler Stroke; Summary.
7. Logic, Arithmetic, and Programming Practice - Introduction; Modular Arithmetic; Logic as Arithmetic Mod 2; Logic Networks; Summary.

8. The Array Calculus - Introduction; The Array Calculus; The Array Alphabet; Arrays; Numerals, Numeric Variables, and Array Variables; Array Operations; Array Addition and Array Subtraction; Scalar Multiplication; Array Expressions; Summary.
9. Matrix Multiplication and Division - Introduction; Matrix Multiplication; Introduction to Matrix Division; Row Operations; The Matrix Division Algorithm; Improving the Matrix Division Algorithm; Matrix Transposition; Applications; Summary.

BASIC TIPS - AMLIST 1983
1. Introduction and Manual Review
2. Programming Philosophy - Program 1 - Tank Attack; Program 2 - Building Blocks.
3. Debugging and Error Messages - Program 3 - Kamakaze Run.
4. Developing Graphics - Program 4 - Patience Please - Program 5 - Super Maze
5. Sound Effects and Music - Program 6 - Happy Birthday - Program 7 - Monkey Business
6. Data Files - Program 8 - Budget Maintenance - Program 9 - Budget YTD Display
7. Arrays - Program 10 - Bowling Stats; Program 11 - Baseball Stats
8. Alpha/Numeric Sorting - Program 12 - Memory Jogger
9. Validity and Testing - Program 13 - Table of Twelves
10. Condensed and Refining - Program 2 - Condensed Building Blocks - Program 14 - 3D TIC-TAC-TOC-TOE
11. Algorithms - Program 15 - Money Planner - Program 16 - Golf Handicap
12. Summary and Looking Ahead.

BEGINNING COMPUTER PROGRAMMING - ALLYN AND BACON - 1984
A general beginner's program guide for the basic language but not written specifically for the TI. The appendix does contain comparison charts for some of the major micro systems which might offer some insight for translating programs.

SMART PROGRAMMER - MILLERS GRAPHICS
Feb 84: Peeking Around; Overall System Map; Additional Memory Not in the CPU Address Space; Draw Program; An Introduction to TI FORTH.
May 84: XB GPLLNK Routine; 16K VDP Ram XBasic Use; 5th1-= Forth.
June 84: Peeking Around; Console Grom Chip 0; Assembly Language to Extended Basic Calls Loads Conversion Program; 5th 1-= Forth
July 84: Peeking Around; Console Grom Chip 1; Console Grom Chip 2; 5th 1-= Forth.
Aug 84: Clock Loader XB Loader; Uncompressed Assembly; RS232 - DSR Memory Map; Assembly Language Print Routines; Routine for Testing; TI Forth - Chips; Sound Routines...Documentation.
Mar 85: Peeking Around; Xbasic Low Memory Expansion After Call INIT; XBasic High Memory Expansion Usage; Line Size; Peeker; Merge/Read; Configuring TI Forth to Your System.
APR 85: Overall VDP Map With Basic and Xbasic: tes9918A VDP Registers; VDP PEEKV, POKEV, and POKER--by John Brown; Extended Basic Symbol Table Structure; 4th 1-= Forth.

MYARC DS/QD DISK CONTROLLER
TOM NELLIS - NORTHCOAST 99ERS

Recently Myarc introduced a quad density disk controller. I already owned a set of quad density drives I had been using with the TI controller and wanted to upgrade to the DS/DD-DS/QD. The quad density option costs $10 more than the DS/DD version, and you must specify that you want DS/QD.

The card arrived 3 days after ordering it from a local dealer. The only indication it was a quad controller was a note on the label attached to the clam shell and one extra page of documentation.

The instructions were to take the clam shell apart and set the dip switches to either DS/DD or DS/QD, depending which type of drive is DSK1,2,3, or 4. The clam shell is held together by plastic tabs, not screws. Getting them apart was an exercise in patience, since you need 3 hands and 4 screwdrivers, so that you don't break any of the tabs. Once apart, the dip switches are located in the center of the card and can be switched easily. While apart, I gave the card a once over; the solders were good, but the overall appearance was BAD. It is obvious Myarc doesn't have a quality control program set up, because this card would not pass inspection on looks alone. I set the dip switches and got the clam shell back together without breaking any of the tabs. "Time for Installation".

Installing the card was a simple matter of replacing the TI controller for the Myarc and reconnecting the cables. Then you power up and insert Myarc's disk-based disk manager SS/DD in drive 1. I hit Option2 for XB and "nothing". Moved the disk to drive 2, typed 'old Dsk2. load" - Nothing. Drives 1 and 2 on my system are MPI 852-DS/DD. On to drive 3 which is a CDC DS/QD. I typed in "Old Dsk3. Load" and VIOLA, id loaded the disk manager after changing a line in the XB load program.

Following the instructions in the Disk Manager manual, it was time to format a few disks. When formatting DS/DD you have the option of 16 or 18 sectors per track. When formatting a DS/QD, you have the option of 40/80 tracks. One note, if you choose 40 TPI, you are only formatting one-half the disk on each side - not a wise choice and with this option, you are only formatting DS/DD. The formatting came off without a hitch in SS/SD, SS/DD, DS/SD, DS/DD, SS/QD and DS/QD. Cataloging a DS/QD disk shows 2878 sectors free - 2 used - 720K of floppy storage.

Myarc warns you to avoid writing to the DS/QD drive, then reading the info with a DS/DD drive, as not all drives are capable of reading DS/QD format and I have avoided this area all together. I copied Myarc's Disk Manager to another floppy, and I can now load it from drive 1. I am not sure why it didn't load in the first place. "A head alignment problem somewhere", but on my floppy it's OK.

Overall the card works fine. A few programs just will not work with the card, some of these are: Quick Copy II, Disk Surgeon 99; Turbo and Track Hack. DM1000 V3.3 when cataloging the DS/QD drive doesn't reflect the sectors free/used correctly, and I haven't tried to format a disk with DM1000 on the DS/QD drive. The DS/QD drive will read any disk format..SS/SD to DS/QD. The Myarc disk manager takes some getting used to, but I only use it to format the DS/QD drive and DM1000 for everything else.

Overall rating is a C+. The fact that I needed three hands to open the clam shell; the card's appearance was very poor, and the Myarc DM didn't load and every other program that I have purchased with a load works fine. I should also tell you that my drive 2 was DOA after installing the Myarc card. I replaced the jumpers for configuring the drive with

a dip switch and the problem went away.. I installed Myarc's DM on Funnelwriter 3.3, and it works fine. This also does away with Myarc's load program.

CHEAT MODE FOR TI RUNNER
BY DAVE TALAN - NORTHCOAST 99ERS

Most who have played or play TI Runner know that it is indeed a challenging game. You have probably spent countless hours trying to master it. Still, you couldn't get past screen 25!. Neveraltheless, you still were able to view the entire 50 screens - but weren't able to play them. You probably hit every key in the hope you might reveal some SECRET CHEAT MODE, but there was none! Now, there is a cheat mode! Type in this simple assembly program in you E/A editor, Assemble it, then run it. (You must load this program prior to loading TI Runner). For more details on assembling, consult your E/A manual.

At first you think nothing has changed, but soon you will realize you no longer have to pick up objects...just climb the ladder!.

For those TI Runner enthusiasts, you will be happy to know there are new screens available as FREEWARE. Send disk mailer and donation to: Michael L. Salley, 35 Orchard, Hazel Park, Michigan 48030.

```
              AORG   >FF00

ICNT          DATA 1
IBAS          DATA 1200

VW            ORI   R0,>4000
VR            SWPB R0
              MOVB R0,@>8C02
              SWPB R0
              MOVB R0,@>8C02
              ANDI R0,>3FFF
              RT

ISR           DEC @ICNT
              JEQ I2
              RT

I2            MOV R11,R3
              CLR R0
              CLR R1
              LI  R2,>6000
              BL @VR
I3            CI R0,767
              JGT I5
              MOVB @>8800,R1
              CI R1,>7000
              JNE I4
              BL @VW
              MOVB R2,@>8C00
              INC R0
              BL @VR
              JMP I3
I4            INC R0
              JMP I3
I5            MOV @IBAS,@ICNT
              B @R3


              AORG >83CR
              DATA ISR

              END
```

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*** CSGD III ***
A Review

by Bill Sager
NEW HORIZONS

This program allows the 99/4A owner to design and create unique and distinctive labels, letterheads, messages and signs, as well as print out TI-Writer type files in six new and different font styles.

Some examples of the output appears on a separate page. Once you have stepped through the process to create a label or letterhead, it can be saved as a file for future printing. Let's take a look at some of the sections of the program:

LABELS

You can choose from over 80 font styles and sizes. Twenty-five of these are included in the CSGD 3 package. Each line of the label can be the same font or different - the choice is yours. The number of label lines is determined by the size of the label and the font style chosen. You also have the option of printing each and every font in either the the regular or a compressed mode. The program will either center your label lines or print them starting at the left hand side.

A small graphic picture can be included on the label if you so desire. Forty of these are in the package, but over 320 are available. The graphic can be on the right side, left side or both sides. If on both sides, then it can be two different graphics. For large labels up to four graphics can be used. As if that was not enough, each graphic can be printed in it's normal way, or as a negative (black is white, white is black) and in mirror image (right is left, left is right). This makes for really customized labels.

Common peel and stick labels come in three heights and varying widths. The program supports all of these standards so that you can print your labels for whatever size you need.

One of the neatest features is the ability to have a frame printed around the label. There are eight different frames built into the program. Of course, you can choose not to have a frame too. The frame is not "saved" as part of the file so a different frame can be used when you print labels the next time.

LETTERHEADS

You can create custom designed neat and professional letterhead and stationery for business or personal correspondence. One large font text line for your name or business followed by up to three small font text lines for the address and telephone number is provided for. As in the labels, graphics can be included if you wish. A choice of top only, bottom only, or both top and bottom design letterhead is allowed.

There are fewer user selectable options when creating a letterhead, however the huge number of fonts to pick from and the fact that they can be used in the regular or compressed mode, along with the hundreds of of graphics gives thousands of possible combinations.

Once you have "saved" your letterhead file you can print out as many sheets as you need.

MESSAGES

This section of the program provides for printing headlines, signs, greeting cards, T-shirt iron-on transfers, and has limitless possibilities.

Some portions of this newsletter are made using printed messages. Again, many options in the program allow for a great deal of flexability. Some have been described already, such as the regular or compressed mode for printing out the fonts, use of graphics and the ability to produce a negative or mirror image. But there are many other features too.

The text/graphic lines can be centered. Not only can they be centered on a full width page, but they can also be centered on either the right or left side of the page, which is particularly useful when making cards. To make a greeting card from a eight and one half by eleven sheet of paper we must be able to print the text and graphics upside-down so when the paper is folded the cards inside text will be correct. Yes - this can be done.

Have you ever wished you could turn out a T-shirt, sweatshirt or baseball hat with your own wording for a gift, team, or club? Or maybe you need to mark your child's name on their clothing for school or camp. Special ribbons or paper for your printer allow you to do iron-on transfers. The catch is that the wording must be printed out backwards so when it's ironed-on the message will be right. The program does this also.

DOCU PRINTER

This section of CSGD III allows you to print out TI-Writer files in any one of six different fonts by using the graphics capabilities of your printer. You no longer have to select from just the type styles that your printer offers. Line spacing can be varied and you can print in full page or two columns.

Page numbers can be added as well as setting the top and bottom margins of the document. For notes and other short writings, a typewriter mode is available so that you do not even have to prepare a TI-Writer file first. Just sit down and type in the words and they will be printed in whatever one of the six font styles you have selected.

CSGD III

There are some other features that permits the user to further customize the printer output from this package but they are minor. What do you need to run CSGD III? A disk drive, 32K memory, X-Basic, and a Epson compatible (Star, 10-X) or Prowriter printer.

CSGD III consists of three disks. If this is the kind of program you might be interested in owning, then there is good news for you! Our users group has made special arrangements on a bulk purchase to offer this to our members at at a price substantially below the regular cost. There will be a presentation at the January 10 New Horizons meeting on this program package. If there is sufficient interest, we can also obtain any of the other CSGD programs and TI-Artist Companion sets at a special price also.

EXAMPLES PAGE FROM CSGD 3 PROGRAM

PRINT YOUR NAME

Above Line Printed Backwards-Hold To Mirror To See

UNITED BETHEL BIBLE CHURCH

DAVID R. ROMER   PASTOR
123 ST. EARL COURT   WALBRIDGE, OH 43465

PHIL'S PHOTO

123 Superior Street   Toledo, Ohio 43601
1-800-SEE-FOTO
"Let Us Blow-Up Your Cherished Photographs"

PRESIDENTIAL CLUB

HONORABLE DONALD J. TURNER   ELECTED OFFICIAL
5533 PENNSYLVANIA AVENUE
WASHINGTON, D.C. 12345   Toll Free 1-800-1TI-CLUB

LETTER HEADS

OHIO FROZEN FOODS INC

WILLIAM TIEP
4567 ADAMS STREET
TOLEDO, OHIO 43612   419-242-8943

OHIO UCDA CONVENTION
TOLEDO SEAGATE CENTRE   MARCH 12-15
OHIO

KAREN SAGER
612 MEADOW SPRING RD
MAUMEE, OHIO 43537
CAT

A VERY HAPPY BIRTHDAY NEW HORIZON 99ERS

RUSH !
FIRST CLASS

NO BEND

BILL SAGER
612 Meadow Spring Road
Maumee, Ohio 43537

FIRST CLASS

ANDY SAGER
612 MEADOW SPRING
MAUMEE, OHIO 43537

LABELS

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KRACKERSNACKS
BY TOM FREEMAN - LA TOPICS - PART 1

1. GRAM PACKER

Let me state at the outset - this new program by Peter J. Hoddie is what I've been waiting for. The fine programs that came with the Gram Kracker, and the utility disk released recently allowed us to move TI-Writer and/or Editor/Assembler to the Grams that we wished, or to combine them, but this still didn't take full advantage of the copious amounts of GRAM available. Now with Peter's help, we can finally do it!

First, a brief explanation of what GRAM PACKER can do. Once the main program "GP" is loaded (by Load Module of the GK, option #5 of E/A, or #3 of TIW), there are three main "branches" depending on what it is you want to do. First of all, you can load a complete E/A #5 type program into the GRAM of your choice. Along with this clone "GP" also inserts a short GPL loader, and information for the main TI menu screen. If you then choose this item from the main menu, the loader transfers the program back out to CPU where it belongs, and then gives control to the transferred program. This takes up quite a bit of the GRAM (one full GRAM for each 33 sector segment, and there is a chance that this won't be quite enough) but boy does it start up fast! DM1000 takes up two GRAMS, FAST-TERM one, for instance.

Your second choice is to insert a GPL loader that merely takes the program off the device you have specified. What actually happens is that a loader equivalent to the E/A #5 loader, is transferred to CPU, and this then takes over the job of accessing the program on disk. There is no advantages of speed here, unless you have a RAMdisk, as I do, but you save the time of having to type in the program name, and you don't even need to have E/A in place. And it IS nice to see these on the menu.

For both of these 2 choices, you can also assign subprogram names, and DSR names so that from BASIC or Extended BASIC (assuming they don't interfere with your programs in terms of GRAM locations) you can CALL xxx or OLD xxx to access the programs. This is a nice feature.

The final "branch" is an equivalent loader for GRAMS themselves, essentially replacing that part of the Gram Kracker (so you don't have to go back to Loader On). As an example, when I use SBUG6, my XBasic is destroyed, so I have an item on the menu to reload the appropriate RAMbank for XBasic, and reconstitute it. There are several additional files on the disk that substitute for the E/A #5 loader, or the GK module loader, in a more general way, is, when the program runs, you must type in the names of the file to be loaded, but I found these less useful, as my E/A is always in place, and of course the GK loader is there if I need it. There are also some files for use with Mini-Memory, and a sample source file for GPL utilities equivalent to the AGL utilities.

Now to be a little more specific as to how the program works. First, you load the file GP as stated above. That part is easy! As soon as the program runs, you are asked which GRAMS to begin and end with, and then you are off and running. Next, you are asked to input the filename, e.g., DSK1.UTIL, if that is the name of the program you want to load, and the device where it is PRESENTLY located. Then you are requested to assign a name to appear on the menu - this

is mandatory. Next, you are given the choices to choose subprogram or DSR names, if you wish (they are optional) and then finally to do the "pack". GP then goes to work and puts all of this into the assigned GRAM. It keeps track of the amount of GRAM used, so that you can do more if there is room, and in fact you are asked if you wish to do another. If you do, the whole process is repeated. Finally, when you indicate you are finished, you can save the GRAM to disk (equivalent to Save Module on the GK, so you haven't lost anything if you don't do it now) and then the program quits.

If, however, instead of inserting the whole program into GRAM, you only wish the loader that will bring it off your chosen device, the process is slightly different. The instruction manual was unfortunately rather murky here, and necessitated a "HAALP" call from me to Peter. There was rather a lot of explanation of how the appropriate files WORK and a little on how to USE them. here is what you must do. The "filename" to load is DSK1.EA5;S;L or DSK1.EA5;S;H. The first loads into low memory, the second into the top of high memory. You should choose the one that is NOT overwritten by the program file you wish loaded. Files that load at >A000 should work with either loader, although I discovered that, for reasons I still don't understand, PTERM which does load at >A000, would not work with the low memory loader). You then provide the same information to menu name, subprogram name, and DSR name, as before. However, when the file is loaded, there is a flat that then makes the program prompt you for "additional filename". This is where you insert the information for which program is to be loaded - you must make a permanent choice for device location, e.g., DSK1., or in my case RD., so that you might type in DSK1.UTIL1 or whatever you want. I suggest you make a utility disk with all the programs that you will have loaded from the menu, and keep it in the appropriate drive while you are working, except when you need another disk there. Of course, it does not have to be in drive #1. Be careful that your utilities disk IS there when you choose that item from the menu - this version of GP has no error checking, and the computer will lock up if there is an error.

The method to load modules is the same except the loader program is called GK;S. It will provide you with the same prompt for an "additional filename". These module and program loaders are very short, so that there is room for lots of them in one GRAM. You can, therefore, very well run out of room on your menu screen - see the next article for various alterations that can or must be made to your operating system to allow for more than nine items on the menu. I have one additional quibble with the FINE program. If you make a single mistake in setting up a series of loaders for the menu, the whole GP will crash, and you must start over. Similarly, if it turns out that one of your loaders doesn't work, as I found out with the PTERM, you must also start over.

The GRAM PACKER is an incredible value at $10.00. Final grade:

PERFORMANCE:	A
EASE OF USE:	A-
DOCUMENTATION:	B
VALUE:	A+
FINAL GRADE:	A

(Note this is the first part of Tom Freeman's tutorial on the GRAM PACKER. To be continued next month)

THE X-10 POWERHOUSE
By Dave Burkett, OH-MI-TI, Jan 87

Many of us spend a great deal of time trying to justify our home computers (especially to our spouses) by explaining all of the neat things it can do for us, like well, er, uh... Besides balancing the checkbook or keeping track of your paper clip collection, just what can it do? Well, I've found something that is both practical and fun, and is relatively inexpensive. The X-10 Powerhouse is an energy management device that lets you control most anything in your house that runs on electricity. It lets you control up to nine devices per room in your home by sending digitally-encoded signals to remote "modules" over the normal house wiring.

Actually, the X-10 devices and controllers have been around for some time now, and I had always thought that this would be a natural extension of the home computer. The "modules" are really switches which receive digitally-encoded instructions from the X-10 controller and turn things on or off (or dim, depending on the module). There are lamp modules, appliance modules, wall switch modules, receptacle modules, 3-way switch modules, etc., and they all perform the same function. Where the fund begins for us computer freaks is that now you can use your TI to program the X-10 to turn your lights, appliances, or furnace on or off when you want them, on the days that you want them.

The X-10 Powerhouse interfaces with your TI via a cable into the joystick port and some cartridge-based software developed for the TI by CorComp. Inside the Powerhouse is a microprocessor that lets you control up to nine devices per room in your home, and up to sixteen rooms. It has a real time clock built in which keeps track of the time and day. It is also battery-backed, so if you decide to unplug and move it, the program you enter stays loaded until you reprogram the X-10 or remove the battery. Once you load the program you want, you disconnect the TI from the Powerhouse. The Powerhouse is then plugged in to any convenient wall outlet, where it sits and does its thing until you reprogram it.

Some of the uses I've made of the X-10 are nothing out of the ordinary, but very nice. For example, shortly after I get up in the morning, the kitchen light turns on downstairs so that I don't fumble around in the dark for the switch. The lights in our children's rooms turn on at about 40% brightness 10 minutes before they're supposed to get up, then go to 100% brightness as a wake-up. Ten minutes after everyone leaves the house in the morning, all the lights go out. In the evening, the lights in the living room turn on at dusk and automatically dim to a pre-set level, then turn off at about 11:15 on weeknights. On weekends, they stay on longer. The television set is programmed not to turn on until after dinner time, so that the children don't turn into "TV zombies" after school. One neat feature is the ability to program in multiple "off" or "on" times. My son has a bad habit of always leaving his bedroom light on, so I programmed the X-10 to turn his light off every 15 minutes after those times he is most likely to be in the room. If he happens to be in there, all he has to do is flip the light switch, because the X-10 can "sense" if you want to turn on the light manually.

Another use of the X-10 is home security. It can be programmed in a "Security" mode as well as the normal mode. The Security mode turns on the devices you want within 30 minutes either side of the time you select, on the days you select, and varies the pattern every day. This way, the house appears lived in while you are away.

The X-10 Powerhouse can be bought through CorComp, or through close-out houses such as DAK. I purchased mine from DAK for $19.90, including cable and disk-based software for the IBM-PC. It does not matter which computer system you have, the powerhouse is the same. Only the interface cables are different. If you purchase the X-10 from someone other than CorComp, you will still need to buy the cartridge software. X-10 modules are available at Radio Shack or at Sears. There are some good sales on them occasionally, and you should be able to get them for around $10 each. There are many other X-10 based accessories as well including remote telephone controls, mini-controllers to place beside your bed, etc.

ACCOUNTING, FORTUNE TELLING. Accounting program features 16-column worksheet and allows up to 4 bank accounts. User inputs column titles, check numbers, business names and amounts. Printout provides details on transactions. George Tells a Fortune displays a series of playing cards on the screen and prints explanations of their meaning on a printer. Leo W. BuBry, 325 S. Center, Longview, TX 74601.

SONGS, VCR MOVIE GUIDE. Bill Knecht is offering Best Songs 2 and VCR Movie Guide. VCR movie guide catalogs a movie collection. Bill Knecht, 815 Yorkshire, Pasadena, TX 77503. To order, send $5 for each program, or $8 for both.

THE DOORS TO EDEN. Two adventure games for the Adventure Module, The Doors to Eden and First Days in Eden. The author asks for a $2 donation at the time the games are ordered. Send either two disks or two cassettes with stamped return mailer. L. Steven Cheairs, P.O. Box 27547, Albuquerque, NM 87125.

SPRINT UTILITY. A utility for assembly language programmers. Reads the variable 80 source file created by the E/A editor and dumps it to a printer or disk. Payment of some sort would be appreciated. Ken Houle, 27721 W. Wakefield Rd., Saugus, CA 91350.

FUNPLUS! A disk of templates, utilities, tutorials, reviews and programs that allow users to access some of the power within the Funlwriter-DM1000 structure. Includes an active cataloger, a banner program, desk calendar, labelmaker, presentation program, templates for borders, boxes, letterheads, etc. Jack Sughrue, Box 459 E. Douglas, MA 01516. For $8 he will provide postage, mailer and media.

BACKYARD POND. A game for children the object is to adopt the identity of a fish and survive against other fish. Dave Dalton, 920 Hillview Dr., Marion, IA 42302. Send disk and stamped return mailer.

PRINTOUT. Provides a variety of options for printing DIS/VAR 80 files to Epson or Gemini compatible features. Steven D. Mehr, 633 Hollyburne Lane, Thousand Oaks, CA 91260. $5 donation requested. Include a disk and return mailer and postage.

TI LEDGER. Said to be identical to Automated Accounting on the IBM-PC. Allows user to define a chart of accounts, make journal entries, print an entry proof, make corrections, post the journal, print trial balance, financial statements (income and balance sheet) and close ledger. Don Scott, Rt 9, Box 654, Claremore, OK 74017. Scott asks for a $5 contribution to help defray the cost of documentation.

GENE-II. Walter Davies, 17718 Orchard Lane, Salinas, CA 93907, is offering a genealogical program for $5 plus disk and self-addressed return mailer. Will list, search and print a family tree.

EXCEPTIONAL GAMES. Steve Patterson (who did "Best of Steve Patterson" last year) has a disk of five games: 1) Quickfire; 2) Income Taxman; 3) Mr. EO; 4) New Horizon's Frog; 5) Riverrun. Usual Freeware policy. Send blank disk mailer, return postage and $2 for documentation to Steve Patterson, 2351 Ragan Woods, Toledo, OH 43614

With a little effort from a few members, ALL of the above could be added to our libraries by our next meeting date!

THE ABOVE ARE RECENT FREEWARE OFFERINGS.

CLEVELAND AREA 99/4A USERS GROUPS
C/O DEANNA SHERIDAN
20311 LAKE ROAD
ROCKY RIVER, OH 44116

PLEASE NOTE - NEW ADDRESS

CHECK YOUR EXPIRATION DATE.
THIS MAY BE YOUR LAST ISSUE!

!! TIME DATED MATERIAL !!