CLEVELAND AREA TI-994/A
USER GROUPS NEWSLETTER
SEPTEMBER, 1991

From the Editor's Desk:

As noted in the NorthCoast notes, we have received the latest version of the Newsletter Printer by Art Gibson. The most useful addition to this version is the ability to set margins on both graphics and text. Thus, it is now very easy to combine two TI Artist instances for large headings, and can be used to create signs, letterheads, etc. This version also contains an editor similar to the TI-Writer/Funnelweb editors. I have not tested it from one end to another, but a nice feature is that you do NOT have to use the CTRL U to access the codes which control your printer. Simply use the CTRL key and the other key that you need. This is very useful for the codes Art has set up in his program. There is also an extensive tutorial on customizing the UTIL files. I have not even had the time to unarc these to look at them. Will try to do an in depth review for the next newsletter.

Thanks to Wes Richardson and Marty Smoley we have a full newsletter this month. In fact, will hold over Marty's TI-BASE tutorial until next month since he said I HAD to put the library update in. We are only about half way through the disks we copied at Lima. Also, Bruce Rodenkirch and I have a backlog of disks we have downloaded from GENIE and gotten from other sources we want to get in.

We have received Funnelweb V4.0 from Charlie Good at Lima. I have not even had time to unarc it and give it a once over. Will quote some of the features from the Lima newsletter for you. As in the past, most of the enhancements will be noticed most by those who have 80-column cards. Additional features include: Support for DSKU file comments. Previously file-by-file copying with any program besides DSKU would not copy the comments. These can now be copied from within the Funnelweb's DISK REVIEW. 80-column users have an improved show directory.

80-column users can switch between 40 and 80-column. There is improved error handling. The flashing cursor autorepeats and accelerates as a single key is held down. The Script Loader file has been enhanced for Assembly programmers. Additional assembly language callable routines are available.

If you haven't been on GENIE or subscribe to MICROpendium, you may not have heard that Harry Brashear has joined ASGARD. The announcement states that Mr. Brashear will assist in seeing that order are filled on time and in general that the company run more smoothly. Chris Bobbitt has stated that he hopes this will allow him to devote more time to new product development. It is heartening that Asgard still feels it can expand for a computer that has been written off as 'dead' year after year.

Some time ago Mickey Schmitt of the West Penn group wrote a series of articles on getting the most out of a cassette system. If you know of anyone still struggling with just a console, you should let them know she has compiled the series into a 52-page booklet which she is selling for $9.95 plus $2.50 for shipping and handling. Write to Mickey Schmitt, 196 Broadway Avenue, Lower Burrell, PA 15068.

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TI-CHIPS
Executive Notes

JULY, 1991

The July meeting of the TI-CHIPS was called to order at 10:00 by Matt Andel. The turn-out was a respectable 20 members. This was pretty good considering the perfect Summer type weather we've been experiencing in northeast Ohio this year.

Harry Hoffman read the minutes for our secretary Dennis Likens, who was unable to attend, and the Chips' treasurer, Lin Shaw, reported that our balance was in excellent health (despite the irritating news that the banks are now charging a service charge for any checking account balance below $1000!).

John Parken reported that the Chips' membership is holding at 43 members. This is down somewhat from last year, but it isn't all that surprising. Yours truly donated DataBIOTICS' TI-PLANNER to the club library. (This is a cartridge spreadsheet that works out of the GROM port.)

Harry Hoffman passed out additional copies of the disk library update to those who hadn't received one yet. (This update contains titles from the 53 some disks copied at the conference at Lima this year. It was also reported that MICRO CENTER computer store has decided to locate an outlet in northeast Ohio! This store is slated to be opened in Maple Hts.. (This was a long time coming!)

A SUPER SOFTWARE BULLETIN: TIPS (version 1.8) is now available.

Matt Andel demonstrated SCREEN PREVIEW by Asgard. This handy program allows the user to 'graphically' preview his text file to see what it would look like on a page before comitting it to print. The 'graphic' screen display is just that, a pseudo display of pixels rather than characters. This allows you to edit the page format in any way you see fit. The price is a reasonable $12.95.

Les Kee put on a demonstration of Barry Traver's GRAPHICOMP, and showed us how this handy routine indeed makes use of assembly compilation of Basic graphic commands to speed up the screen response. It is rather amazing to see just how fast our TI can work.

The Chips decided to order the video tapes, of the 1991 conference at Lima, from the Lima user group, and provide copies to the Northcoast 99ers for their library.

During the 'TALK AND QUESTION SESSION', an inquiry was made as how to copy only part of a disk onto a new disk without reformating or going from a SS/SD to a DS/DD format. We found that information does indeed go around in circles. This is because what might be considered 'old' techniques to some , is actually 'new' tips to others! The above inquiry is a good example of this. The answer is to utilize the "FILE COPY" routines in disk managers such as DM1000, DISK MANAGER II or Corcomp's MANAGER. This option will copy any file to any formated disk regardless of the original disk's format or the backup disk's format.

Virgil Thomason won the raffle packet of ten disks. Congratulations Virgil!

We'll see you on August 17th at 10:00!

Glenn Bernasek

AUGUST, 1991

The August meeting of the TI-Chips was opened by Matt Andel with the announcements that the CorComp disk controller card has been installed into the Chips' system (therefore allowing us the ability to utilize the DS/DD drives to their full capacity) and that the video tapes of the 1991 conference at Lima have been copied by Les Kee for distribution through the Northcoast 99er's library. Thanks Les for your generous contribution to both the Chips and the Northcoast 99ers! There is a lot of valuable information on these tapes, and it is strongly recommended that the members of both groups take these tapes out on loan.

Dennis Likens and John Parken were unable to attend the August meeting. Therefore yours truly once again filled in for Dennis as secretary Jr., and John's membership and lending library report was waived.

Our Treasurer, Lin Shaw, reported that the club's purchase of the CorComp controller card has been reflected in this month's report, and that the Chips' balance is still healthy.

Harry Hoffman passed out the July 9, 1991 updates for the disk library. However, Harry cautioned the membership that the disk identification might have to be changed to conform with the Northcoast system. So, if you would like to order any of the new disks from the 1991 conference at Lima, please hold off for a little while until the disk numbering and identification system can be straightened out. Harry also reported that the 'raffle' disk packet contained copies of the disks in the new library update.

Matt Andel demonstrated a sub-program for TI-Base called THE ORGANIZER!. This is a file cabinet card file organizer which makes setting up quick simple files a snap. This is a disk resident file maker in that the files are searched on the disk rather than from the computer's RAM. This tends to slow up the search

procedure somewhat, but this format allows for VERY LARGE numbers of files for each drawer. This is a menu driven sub-program, and is very easy to use. Matt's demonstration sparked a lot of questions and comments. It is a fitting companion for TI-Base.
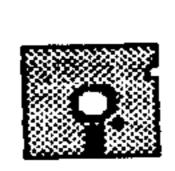
Les Kee demonstrated another of his construction utility programs this month. This routine calculated the number of pipes which can be fitted into a given large pipe. This program calculates the hexagonal packing of circular sections, and tells the user how many sections will fit. This type of math is needed if you are planning to insert small pipe into a large pipe, or calculate how many wires will fit into a certain size cable insulator sleeve. Thanks Les for another demonstration of our TI's power.

What a way to visit the TI-Chips! Bruce Williams dropped in, through Mark McCauley's invitation, to see what the TI-Chips were all about. Not only did Bruce decide to join the Chips' family (welcome to the TI-Chips Bruce!), Bruce also won the raffle of 10 LOADED disks! Congratulations!

Here's hoping that the September 21st meeting will be back to normal (officer-wise). See you ALL then!
Glenn Bernasek

NORTHCOAST 99ers Executive Notes

The 'Dog Days of Summer' hit the Northcoast group this month. This seems to have become somewhat of a summer tradition. Hopefully next month with vacations over and school started, we will get back to the TI routine.

Chris Pratt of the West Penn and Pittsburgh groups was a guest and updated us on the hard disk controller by ESD. As reported last month, ESD has refunded all deposits for the controller and have gone to a more efficient 'surface mount design' that will enable us to use the newer hard drives. They will be selling both a 40-meg hard drive and the controller for approximately the same price they had advertised just the controller. The drive will be a 3-1/2 drive and very low power. However, this is ONLY a hard drive controller. You will need your present TI or CorComp controller for your floppy drives. He could not give any delivery date, but we all expressed our hope that he would hit the 'window' of the Chicago Faire, or he may have waited to long to make it a viable product.

At the July meeting, the group voted to send Art Gibson $20.00 for his 'Newsletter' printer which we are using each month. It was stressed that this contribution was ONLY for use for the Newsletter and anyone else using the program would be obligated to make his/her own donation. Deanna reported she had received the updated program which also includes an assembly language tutorial on how to customize the UTIL files. The latest version also includes an editor and now takes up both sides of a disk.

Harry Hoffman brought tapes of the LIMA conference which are available to be copied or borrowed by members.

Marty Smoley reported that memberships are not being renewed as much as in the past..that more and more people are selling and going to an IBM or Apple. Many times this occurs because they need to keep up with what is going on in their office and the family simply cannot afford to support 2 brands of computers.

Walt Ryder gave an excellent demo on the workings of the 'Debugger' which comes with the Editor/Assembler. People who do assembly language programming speak a different language than the rest of us. Thus, Walt kept us mesmerized as he showed us the inner workings of this program.

See you at the September meeting!

WRITING PROGRAMS
A PRIMER PART 01

by WESLEY R. RICHARDSON
NORTHCOAST 99ER'S, CLEVELAND, OH

PURPOSE

The purpose of this article is to encourage those of you who want to write a computer program but say "I don't know where to start or how to start." This article will provide some guidance to answer those questions.

SCOPE

The focus of this article will be on the Texas Instruments (TI) computer, TI-99/4A, using the Extended BASIC (XB) language, but the concepts will apply to any type of computer and language.

INTRODUCTION

The reason many people bought home computers or personal computers was to learn what this computer craze was all about. What was not so apparent when the computer hardware was purchased, brought home and set up, was that the hardware was useless without software. The software consists of the programs that tell the computer what to do. There are programs that do almost anything that you would like the computer to do, yet new programs are being written every day. One reason that computers are powerful is that they are flexible and can do a variety of tasks depending upon the program that is controlling the computer.

In spite of the vast number of programs available, new programs are being created because of new applications for the computer, or faster or better ways of doing previous programs. Programs are also being written because it is fun, creative, and a learning experience to write programs. Assuming that you have the desire to write a program, read on.

CONCEPT STAGE

The program concept stage is to me the hardest part of writing a program. The concept stage is where the idea for the program is created. This is the initial definition of what the program will do. Note that the functionality of the program usually is different than the concept, because of constraints due to time, speed, memory, hardware, or knowledge of the programmer. The greater the detail of the concept before programming, the closer the final program will reflect the concept. Regardless of your desire to write a program, you must have some idea as to what the program will do

to enable you to start writing the program.

PROGRAM LANGUAGES

For the TI-99/4A, we have several languages in which a program can be written, including: BÁSIC, Extended BASIC, SUPER Extended BASIC, Assembly, c99, FORTH, FORTRAN, G, LOGO, PASCAL, TURBO PASCAL, PILOT, and the Graphics Programming Language (GPL). Many of these languages support calls to another language such as to Assembly from Extended BASIC. Your selection as to the program language will depend upon what the program is intended to do. The factors in this decision include what types of screen displays you will use, required speed, availability of the required hardware and software, and your programming knowledge. Because of the ease of learning, BASIC and Extended BASIC are the most popular for the beginner to advanced programmer. Assembly is the closest to machine code and has the fastest potential and greatest access to machine capability. You can also write the program in one language and prove the concept and then rewrite the program in another language for speed, for example. Finally, writing a program in a language which is new to you should also be considered as that will expand your programming knowledge.

THE COMPLETE PROGRAMMING BOOK

It doesn't exist. An often heard question is what is the "best" book for learning Assembly programming. The best programming book and the complete programming book do not exist. Just as the best book and the complete book on how to play golf, tennis, or fishing do not exist. Programming is a learned skill in which you never stop learning. Just as there are always new words for you to learn in a language, your programming knowledge and for that matter, your computer knowledge can continue to grow for a lifetime, yet you will never know everything about programming. This is not meant to discourage you, but to invite you to step into the vast world of programming. If it were so simple as to be able to fit all programming knowledge in one book, we would all be bored with it very quickly. The beauty of programming is that each programmer can add their personality to their creation, even with the same outputs. The way to start programming is to start with the basics such as printing to the screen, and then increase the program complexity as your programming skills expand.

The other reminder is that the end product that you see as a finished program, has gone through many revisions to refine the program. A program

which I recently wrote, MAGNA-CALC, had 82 revisions in the XB portion and about 20 revisions in the Assembly portion before I was ready to release it. Each routine that you need and each error that you make in writing a program become small puzzles for you to solve.

PROGRAM OUTLINE

The standard guidelines for writing a program say that you should flowchart the program before ever starting to write code. This is sound advice, but is not how I write programs. The way I start is to start at the top level of the program and define a set-up section (100), a main menu (200), the options sections (300, 400, 500), closing routines (800), and a subroutine section (900). The numbers refer to the line numbers in the PROGRAM01X listing at the end of this article.

Build the program top down and bottom up. What does that mean? The overall program outline (top down) can be created, even if the program cannot do anything except go through some branches. The bottom up programming comes when you define the very specific routines which do one task, and these are called from higher levels when required. An example of a specific routine might be one which gets a filename, verifies it, and then opens that file. The top level routines allow the user to make selections from a category of options and then work down to the more specific function desired. When you write the program, you should set up the framework for the program, and then write the programming commands down to the detail level in one section at a time.

SUBROUTINES

The subroutines are programming steps which have similar functions but which are called from different sections of the program. The advantages of subroutines are that they save time by not writing the same program steps several times for different sections of the program, and they save memory by avoiding duplication. Library subroutines are routines written by someone else, which you call using specific formats. They are particularly useful for complex operations and calculations such as SIN(X) and CALL SPRITE().

WRITING CODE

To begin writing code or programming instructions, you will need a reference guide which lists the commands and syntax required for statements in the programming language which you selected. When you purchase a program language, it is expected that you will be provided with such a reference list.

Your first task will be to start learning the commands you need by looking them up. In well documented manuals, the commands will work exactly as described. Only through your use of the commands will you determine if you understand the syntax and application of the command and if the documentation was correct. Some languages also have hidden commands which they do not list in the documentation, but which you may discover by accident or by looking at the programming code of the language itself.

In a manner very similar to learning a foreign language, you will need to develop your vocabulary in the selected programming language. A way to accelerate this learning process is to study programs written by other people. By study I mean work through the program instruction by instruction so that you understand how the program functions. On a copy of the program, not the original, make modifications to the program to change the displays, inputs, outputs or whatever improvements are important to you. Be sure to add a reference near the beginning of the program as a reminder that this is a modified version, and save it using a modified file name.

When you are creating something new, like a new or modified program, please make frequent backups. I believe in saving my work to disk every 15-20 minutes, with a printout about once per hour. Also when you are ready to turn off the computer, be sure to save to disk and print your work up to that point. It is much easier to re-enter a program from a listing after the power goes out unexpectedly than it is to recreate your work.

ERROR DETECTION AND CORRECTION

There are two levels of errors in programming: syntax and logic. The syntax type of error will often be detected when you try to run or compile the program. This type of error is relatively easy to detect as well as correct. The logic error is often very difficult to identify and may go undetected even by the program users. More complex programs increase the difficulty of detection of the logic error, and even if detected, may be even more difficult to correct. It is an obligation of the program writer to test the program before releasing it. Users will assume the program functions properly until proven otherwise, and could come to incorrect conclusions using your program if it has errors in it.

I believe it is fundamental that each revision of the program is clearly indicated. This can be

done by revision number or a date. Any user has the right to know if two copies of your program are the same, or if different, which is the later version.

When writing a new program, if possible, test each section you complete. It will be easier to make corrections when that section of program is fresh in your memory. If you have a large program that you are adding a routine to, it is helpful to first create the routine as a separate small program, using only the minimum supporting lines required. Once the routine works, it can then be incorporated in the main program.

I don't believe that even the most experienced programmer sits down and writes an error free, working program, without making corrections or modifications. As I said earlier, the fun of programming is solving each of the individual problems which eventually leads to the completed program. A corollary to this is that no program is ever completed. It is always possible to make improvements, but at some point the decision is made to share the program with others. The first distribution of the program should be on a limited basis, called a beta test. During beta testing, people that are similar to your end user will use your program and provide feedback to you. You should make every attempt to limit distribution at this point so that corrections which are made as a result of the beta testing can be distributed to all people who have copies of the program.

The additional pleasure from writing programs is acceptance by others. This can come from your friends, user groups, or selling your program. It is also the point which can be frustrating if you set your expectations too high. All programmers fall in love with their creations after they have spent hours working on the program. To them, the use of the program is obvious and user friendly. My recommendation is to find enjoyment from the time you spent learning and programming. If one or two other people like your program, then so much the better. Whether it is accepted or not, use the feedback for improvements when you write your next program.

GETTING STARTED NOW
Using Extended BASIC, type in the program listing shown below. Save it to disk using SAVE DSK1.PROGRAM01X. Then run the program. If you encounter any errors, check your program statements against the listing. If you have a printer, this may be easier to do from a printed

copy of the program. This program is very simple, but the format can be used on complex programs. With larger programs, each of the options sections could be further divided into menu selections. This process can be extended down through as many layers as are needed to select all of the desired functions. If there are commands in the program which you do not understand, then please look them up in the Extended BASIC manual.

Once your program is running correctly, start expanding one of the options sections to do something more. This could be take an input sentance and print it to printer, for example. That is all there is to it, now why don't you give it a try?

```
100 REM PROGRAM01X
110 REM TI-99/4A EXTENDED BASIC
120 REM WESLEY R. RICHARDSON, JULY 1991
130 REM NORTHCOAST 99ERS, CLEVELAND, OH
140 REM VARIABLES K,S
200 REM MAIN MENU
210 GOSUB 950
220 DISPLAY AT(4,4):"1 = OPTION 1"
230 DISPLAY AT(6,4):"2 = OPTION 2"
240 DISPLAY AT(8,4):"3 = OPTION 3"
250 DISPLAY AT(10,4):"4 = END"
260 GOSUB 910 :: K=K-48
270 IF (K<1)+(K>4)THEN 260
280 ON K GOTO 300,400,500,800
300 REM OPTION 1
310 GOSUB 950
320 DISPLAY AT(10,4):"OPTION 1"
330 GOSUB 910 :: GOTO 200
400 REM OPTION 2
410 GOSUB 950
420 DISPLAY AT(10,4):"OPTION 2"
430 GOSUB 910 :: GOTO 200
500 REM OPTION 3
510 GOSUB 950
520 DISPLAY AT(10,4):"OPTION 3"
530 GOSUB 910 :: GOTO 200
800 REM END
810 GOSUB 950
820 DISPLAY AT(8,4):"THE END" :: STOP
900 REM SUBROUTINES
910 DISPLAY AT(22,4):"PRESS A KEY"
920 CALL KEY(0,K,S):: IF S=0 THEN 920
930 RETURN
950 CALL CLEAR
960 DISPLAY AT(2,2):"PROGRAM01X DEMO"
970 RETURN
999 END
```

6.

DISK 91000
Contains intructions and test programs for adding 64K bytes of memory to the Geneve 9640. Written by Alexander Hulpke.

DISK 91001
*PLATO/ARC: An archived program which will run the Plato disks. It will run using Diskreview in Funnelweb. Supercart is required.

*QBASE/ARC: A "simple" database which was written for use if you don't want to use one of the more complicated data bases like PRBASE or TIBASE.

*TSHELLARC: Written by Travis Watford, TSHELL will load into memory and allow use of many disk manager functions from extended basic environment.

SMASH2: This is a fairware program by Bud Wright which will print up to 216 lines of 80 columns (DV/80) on one page. It is patterned after the IBM program DOC SMASH. It prints in super script and might be handy for printing docs to keep in the disk sleeve. Bud says if you want updates to call his BBS (TIABS) on 614-852-4579 2400 baud 8N1. He has 80 megabytes of memory for TI files.

DISK 91002
This disk contains three different XB musical works. The first two are programmed by Ken Gilliland. The final program is Six Ribbons, which doesn't fit with the two operatic works, but there was some space left! SIEG-LOAD SIEG-ART SIEG-WORK are the three files that make up the award winning Siegfried program. TRISTAN TRISTAN2 make up the impressive music and graphics experience taken from the Wagner opera. 6-RIBBONS This is just a nifty little Scottish Aire that makes excellent use of the TI's sound capabilities.

DISK 91003
HONEYHUNT: An assembly game I had not seen before. It must be loaded with the EA cartridge. Not a bad game and is a nice one for smaller children. (Big ones too.)

MAJOR-TOM: A tough assembly game where you must save the nuclear plant from blowing up by dashing through the plant and gathering up the nuclear junk. No docs but I think you can figure it out, especially if you are 14 years old.

DISK 91004
HOCKEY: There is another HOCKEY game in the library I think but this is a little different. It is for two and is a fast moving assembly game.

DISK 91005
ARGOIDS: An assembly game similar to a Star Wars battle scene. Not a complicated game, addictive for awhile but not long term.

CHAINLINK V5.01: A series of card solitaire games written by Walter Howe. The graphics are good and the moves are fast. Works with the 9640.

JS-PDGAMES: Jack Sughrue is a teacher and he wrote a series of XB games for his students and uploaded these to GENIE where I found them.

DISK 91006
CINVADERS: An updated version for you students of the c99 language.

PERFECT PUSH: An assembly game that is more of a puzzle than a game. The astronaut must assemble the sections of his space ship in an underground cavern so he can escape. The underground rubble must be moved around by pushing it and of course there is the usual monster to watch out for.

FUNCITY: Barry Traver wrote this one as a spoof of the word adventure games. It will run by itself and make you laugh.

GIRL: A TIA picture from GIF

WIPE-OUTXB: A joystick version of the familiar XB game.

DISK 91007
ALIEN: Similar to TI INVADERS but tougher. Assembly

BASEBALL: A baseball simulation where you direct the players as a manager would. The graphics are very good for XB and it is a well written game. Not fast moving but absorbing.

CR/INSERT: A utility for adding CR to text in DV/80 format. Some docs have no CR's and many downloads do not which makes reformatting difficult.

TROOPER: This is a cute XB game which is probably elsewhere in the library but makes a nice disk filler. Drop the paratrooper on one of three islands or he drowns. The trooper's weight and the wind varies so it isn't so easy.

VISIONS/BA: A display of everchanging screen patterns which is pretty to watch after a stressful day.

DISK 91008

cSHELL99 DEMO: cSHELL99 is a graphic xser interface program similar in appearance to "GEOS" for the Commodore 64. It was developed as a personal project of the author for use on the TI 99/4A Home Computer.

cSHELL99 is written in a mix of assembler and "c99" created by Clint Pulley of Ontario, Canada with all of the assembly language routines being placed within a C structure. The purpose of cSHELL99 is to provide the 99/4A community with a slightly different and fun environment in which to operate and to also demonstrate additional power of a great machine. (From the DOCS)

DISK 91009

This is a disk of TIA pictures converted from GIF picture. BART, ROBOCOP, SIMPSONS, TARDEMON, TURTLE etc.

DISK 91010

BUZZARD: An assembly game similar to PACMAN or MUNCHMAN.

GOLF: A very nice simulation of a round of golf on the isle of Capri. The author will design a board of your favorite course, if you register and send him a sketch of the course. Once you get the hang of what club to use you might get to score your normal game.

SCRABBLE: An assembly version of your favorite board game.

TRADINGCD: A handy utility if you have a collection of sport cards or whatever. Will save to disk after sorting in alphabetical order.

DISK 91011

DB99VIDEO: A database for keeping track of your video tapes. This is a rewrite of the DB99 datebase. It was written to improve the printing features of the original program. Includes a sample video database file.

DISKS 91012 and 91013

CARDSHARK and DEMO: These two disks are Milton Bradley programs and you will need a Gram Kracker device to run them.

DISK 91014

YAPP V 0.55: Yet Another Paint Program. For the Geneve 9640

DISK 91015   DS/SD Disk

MANDARIN: Graphics for YAPP.

DISK 91016- TMS 9900 CLIPBOARD #1

This and the succeeding disks contain a diskazine with articles and tutorials on the c99 language.

DISK 91017- CLIPBOARD #2

DISK 91018- CLIPBOARD #3

DISK 91019- CLIPBOARD #4

DISK 91020- CLIPBOARD #5

DISK 91021- CLIPBOARD #6

DISK 91022- CLIPBOARD #7

DISK 91023- CLIPBOARD #8

DISK 91024- CLIPBOARD #9

DISK 91025

Utilities and games by Karl Ronstedt. Among them are:

ELF- Easy Label Factory. Multiple fonts per label. Two label sizes.

LOAD- A colorful load program that catalogs the disk and allows you to delete or run a program. Will also run EA#5 programs.

LOAD-EA5- Has self-relocating portions allowing loading of EA5 programs regardless of their position in memory. Faster than LOAD program above because it has imbedded assembly routines.

DISCOVER- A neat program to print catalog to one of two label sizes. Will also print disk sleeves with catalog. Works great!

CONTRABAND, COSMICDUEL, SUPERJOT and ALPHASPEADK are XB game and puzzle programs; cute but nothing special.

DISK 91026

Text files describing Wafertapes, their history and technical details.

8.

DISK 91027
Myart Pictures, ARChived

DISK 91028
Demo of excellent ROCK RUNNER game. Excellent graphics.

DISKS 91029, 91030, and 91031
This was a group of five disks archived to three disks of Chemistry exams and diagrams evidently worked out by a teacher for class use. The diagrams are in JOY PAINT format.

DISK 91032
MANEUVERING GAMES- Six Maneuvering Games by Jim Peterson originally copyrighted but now PD. Complete descriptions included. Also seven non Peterson games, all fun.

DISK 91033
KIDS GAMES - Six copyrighted by Jim Peterson but now PD and seven others, some very good.

DISK 91034
BRAIN TEASERS - Seven copyrighted by Jim Peterson but now PD and seven others. Favorites like Missionaries and Cannibals, three tubs, movable tiles, etc. Guaranteed to make you think.

DISK 91035
WORD GAMES - Six copyrighted by Jim Peterson but now in PD plus several others. Some very difficult.

DISK 91036
MIDDLE AND HIGH SCHOOL MATH - Great math tips, majic nines, Russian Multiplication, etc.

DISK 91037
ASSEMBLY GAMES - Eleven less familiar TI Games. BUZZARD loads through the LOAD and RUN option. LOAD program will accept 32 more games. Good graphics and sound.

DISK 91038
DISK UTILITIES V 4.2 - Last version by John Birdwell. Includes a way to create a file of your file comments.

DISK 91039
PAGE PRO PICTURE CATALOGER - Contains a Cataloger program, Documentation file, and Doc. printer.

DISK 91040
TINY GRAMS - (431A) A Disk full of short programs that do BIG jobs by an expert in this field, Ed Machonis

DISK 91041
CASSETTE INDEX METHOD - A method to index and find data on Cassette Tapes for players without counters. Also includes a fine discussion on money handling be Rague.

DISK 91042
MAC-LABELS - Twenty two programs to generate Labels for every occasion by Ed Machonis.

DISK 91043
MULTIPRINTING - A collection of very useful programs. Sort, Bar Graph, MPG calculator, as well as the printing program.

DISK 91044
MULTIPLAN - Multiplan Tutorial with exercises. Intended for the occasional user. Very detailed in documentation.

DISK 91045
MULTIPLAN II - Three files of text to accompany (433A)

DISK 91046
ASSEMBLY LANGUAGE TUTORIAL - Three files of dissertation on Assembly Language and the TI 99/4A by Tony McGovern. Also includes a M/B game, SUPERFLY.

DISK 91047
GAMES - Seven more assembly games. No loader on this disk.

Unfortunately Lyn Bliss, a long time member, is leaving the TI world and moving to the IBM compatable. She is selling her complete system at this time. She has a fairly new console, PE Box, RS232 card, TI disk controller with three full height 5 1/4" drives, a Juki Daisy Wheel Printer/typewriter with 5 print wheels and a color monitor. She also has TI-Writer, Multiplan, Editor-Assembler, TI-Base, Speech-Synthesizer, TE-II and many many more, plus a big bunch of software. She would like to sell the whole package at once, but who knows. If you're interested give her a call (in Cleveland) at 251-6661. Good luck Lyn, from all of us.

9.

TI SYSTEM WITH
PEB BOX AND ALL
STANDARD CARDS
GEMINI 10X PRINTER
SOFTWARE
PETE PRETE
228-7156

CLEVELAND AREA 99/4A USERS GROUPS
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