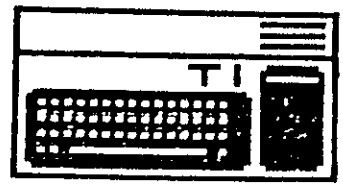
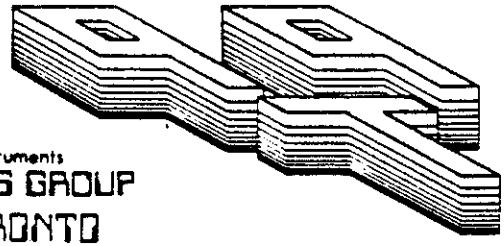
NEWSLETTER NINE-T-NINE
SEPTEMBER 1992 ISSUE





Texas Instruments
USERS GROUP
TORONTO

FOR THE TI-99/4A COMPUTER

ATTENTION TIERS...
9T9 RECALL REUNION/BAR-B-QUE
WILL TAKE PLACE OCTOBER 14/'92
SEE TIDBITS, INSIDE, FOR DETAILS.

FROM:
9T9 USERS GROUP
15 KERSDALE AVE.
TORONTO, ONT., M6M-1C9
CANADA

9T9 Users Group

9T9 USERS GROUP EXECUTIVE COMMITTEE

PRESIDENT Steve Mickelson (657-1494)
VICE-PRESIDENT Neil Allen (236-0842)
SECRETARY/MEMBERSHIPS Randy Rossetto (469-3468)
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LIBRARY DIRECTORS

Gary Bowser (960-0925)
Andy Parkinson (275-4427)
Steve Findlay (416) 727-6807

NEWSLETTER EDITOR

Steve Mickelson (657-1494)

MEMBERSHIP FEE'S

FULL MEMBERSHIP..... $30.00 / year
NEWSLETTER SUBSCRIPTION ..... $20.00 / year

All memberships are household memberships. A newsletter subscription is only for those who do not wish to attend meeting, but wish to receive our newsletter and have access to our library. You are welcome to visit one of our general meetings before joining the group. If you wish more information contact either our president, in writing, at the club address on the front cover or by phone.

The meetings are usually held on the last Wednesday of each month,(exceptions are December's meeting date, usually mid-month and the months of July and August, when there are no meetings. Consult this issue of Newsletter 9T9 for the date and time of the next meeting. Meetings are usually held at Neil Allen's place, 52 Graystone Gardens,south of Bloor St., just west of Islington Ave., at. 7:30 P.M. from 7:30 - 10:30 PM.

BBS

The 9T9 Users Group supports the Toronto BBS, The TI Tower BBS #(416) 921-2731, 300/1200/2400 BPS, 24 hrs. Sysop, Gary Bowser.

MAILING ADDRESS:

9T9 Users Group, 15 Kersdale Ave., Toronto, Ontario, M6M 1C9, Canada

COMMERCIAL ADVERTISING

Any business wishing to reach our membership may advertise in our newsletter.
The rates are as follows. (width by height):
FULL PAGE (7" x 10") $30.00
HALF PAGE (7" x 5") $15.00
QUARTER PAGE (7" x 2 1/2") $ 7.50
Please have your ad's camera ready and paid for in advance. For more information contact the editor. Don't forget, that any member wishing to place ad's, may do so free of charge as long as they are not involved in a commercial enterprise.

NEWSLETTER ARTICLES

Members are encouraged to contribute to the newsletter in the form of articles, mini programs, helpful tips, hardware modifications, jokes, cartoons and questions. Any article may be submitted in any form by mail or modem. We welcome the reprinting of any article appearing in this newsletter providing credit is given to the author and 9T9. If more information is required, call the editor. The names, 9T9, Nine-T-Nine, Newsletter 9T9, 9T9 Users Group, and Nine-T-Nine Users Group are Copyright, (c) ,1982-1992, by the 9T9 Users Group of Toronto, Canada, all rights reserved.

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ATTENTION TIERS!..
9T9 RECALL REUNION/BAR-B-QUE
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Shoe

TIDBITS #61

-By Steve Mickelson, President 9T9 Users Group
Compuserve 76545,1255; Delphi SMICKELSON; GEnie S.MICKELSON

9T9 Recall:
Back again after a summer break. Due to demands at work, I was unable to work on the newsletter, and this is why it is out late. However, the good news is that the 9T9 Recall reunion, will take place at the home of Neil Allen, on October 14, from 5:00 PM until ? Please note the date and time. The reunion will be in the form of a Bar-B-Que, rain or shine. Hamburgers and hot dogs will be served. You are asked to bring a salad or desert. Friends and families are welcome.

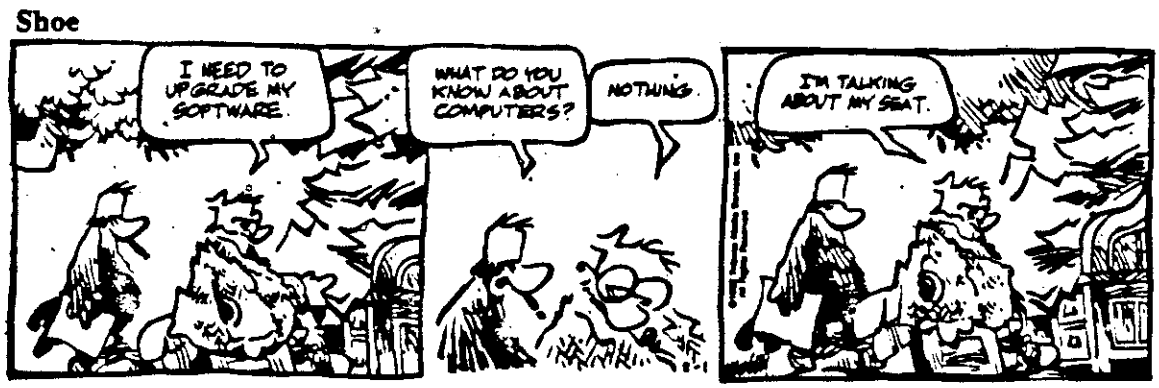
Neil's place is located at 52 Graystone Gardens, south of Bloor St. and west of Islington Ave.
phone #236-0842.

No contributions, for the newsletter were submitted, last meeting.

New Editor Position Open:
After being president, which mainly involves editing the newsletter, for a period of six years, I feel it is time to hang up my hat at these two positions. Demands, both at work and family, plus the desire to do some computing, just for the fun of it, caused this decision. I feel, no longer, do I have the spare time to produce a newsletter, though I may continue with my TIdnits, provided someone steps up to take-on the job of newsletter editor. The candidate, would have a free hand in deciding the size and format of the newsletter.

I would be happy to advise the new editor as how the newsletter is edited, in its present form. If you read the back issues of our newsletter, you will see articles on the mechanics of lay-out, cutting and pasting, etc. The size and number of pages, does not necessarily have to be current size, and shrinking of size would most likely reduce the membership fee. This fee, has been driven by the printing and postage costs of the newsletter.

So, if you would like to try your hand at putting out the newsletter, let us know before the elections, in January, '93.



9T9 TORONTO USER GROUP LIBRARY LISTING

MAILING ADDRESS:
9T9 Users Group
15 Kersdale Avenue
Toronto, Ont., M6M-1C9
CANADA

LIBRARY DIRECTORS:
Gary Bowser (416)960-0925 Disk Librarian : Handles the mail order,etc.
Andy Parkinson (416)275-4427 Library Updater : Adds/Demos the new software.
Steve Findlay (416)727-6807 Cassette Librarian : Handles the Cassette Library.

LIBRARY INFO:
Library disks are $2.00 each.
DOM's (Disk of the Month) are $3.00 each.
Prices are a buck less per disk, if you supply the diskettes.
All disks & DOM's are available the following ways:
1: At all club meetings.
2: By mail, send a list of diskettes wanted, and a cheque or money order to the club's address. Disks will be mailed within a week after getting your letter.
3: By calling, GARY BOWSER at 960-0925 & arranging to pick them up at his place.

DISK CODE: A)rtist S)peech util's U)tilities C)atalogs soft/hard
G)ames O)ther misc. I)nstructions H)ome & finance P)rogram langs/help
M)usic E)ducation D)isk manips W)ord manips T)erm ems/help/BBS's

TYPE CODE : TEXT-Dis/Var 80 EA -Editor/Assembler and 32K
MP -Multiplan FRTH-Forth lang. EAXB-Either EA or XB32
MM -Mini Memory TE2 -Term Em. II XB -Extended Basic
ART -pictures 9640-MYARC 9640 XB32-Extended Basic with 32K
LOGO-Logo II module
is the number of single sided/single density disks needed.
VER. is version of the program. Disks listed as OLD will be updated as soon as the club gets the latest version. Disks listed as NEW were recently added or updated since the last print of the CATALOG.

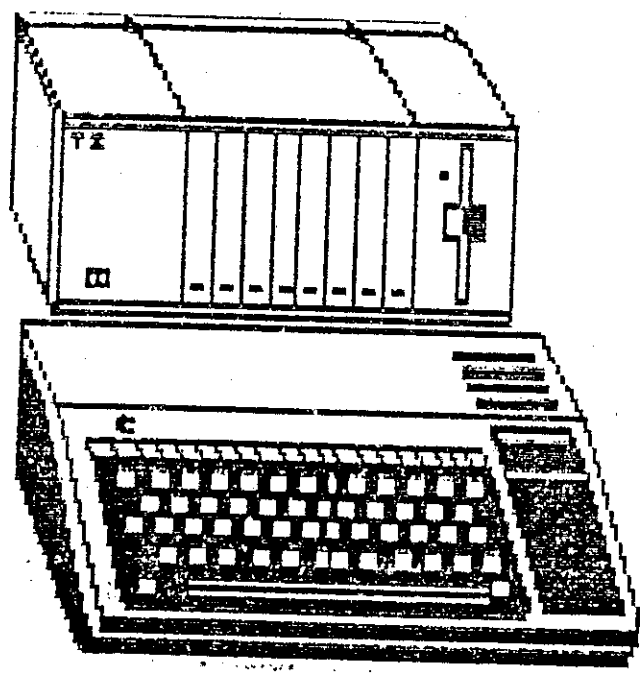
DSK DISK NAME # TYPE VER Comments about the programs,etc.

A01 ARTISTPIC > ART >>> B/W TI-ARTIST pictures (40 disks)
A02 COLORPICS > ART >>> Color ARTIST pictures (02 disks)
A03 ARTISTFSI > ART >>> Fonts/Slides/Instances (13 disks)
A04 TIPSDISKS > ART NEW The TIPS series of disks (06 disks)
A09 AUTO CAD 1 EA Computer assisted drawing
A10 GRPHJACKT 1 XB Prints a disk jacket using a GRAPHX
A11 JETSPRITE 2 XB Sprite builder program
A15 TASS 2001 1 XB32 3.0 Tri Artist Slide Show 2001
A16 SSHOWART1 2 XB NEW TI-Artist Slide Show in XB #302/304
A17 SSHOWART2 1 XB NEW TI-Artist Slide Show in XB #305
A20 PICASSO 1 EAXB Desktop Publisher
A23 INFOSYSTM 1 EAXB Slide Show and Editor from Holland
A24 ART/CON 1 XB32 Utilities to use with TI-ARTIST
A25 PIX-SHOW 1 XB32 Color Artist Picture show from XB
A26 ANIMATION 2 EAXB Make your own Cartoons with Docs
D03 MX-DOS 1 XB32 A DOS for Extended BASIC
D04 QUADLISTR 1 XB32 4.4 A great 4 column disk cataloger
D05 DISKUALL 1 EAXB 4.1 DSKU for TI/CORCOMP/GENEVE systems
D " DSKUMYARC - EXXB 4.1 DSKU for MYARC Controller in a TI99

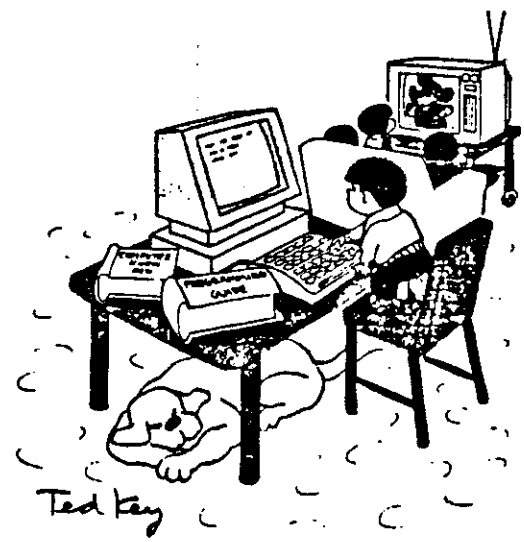
D " ARCHIVER - EAXB 3.0 Archiver 3 with one step ARC & CMP
D06 LISCUTILA 1 EAXB — BTLOAD,DISK@,CATLIB,DCOPY with docs
D07 MISCUTILB 1 EAXB — DCLP,LABELER,GR EDITOR,GR VIEWER
D08 DSKLABLER 1 XB32 2.0 Disk Labeler 99 with full docs
D09 FILEMAINT 1 FRTH NEW File Maintenance written in FORTH

G01 CHINACHSS 1 XB A new game using icon control!
G02 CRAPS 1 XB32 Crap Game (very good game)
G03 FRENZY 1 EAXB Space game very well done
G04 MONOPOLY 1 XB Plays like the board game
G05 MS ADVEN 1 XB32 Text adventure game
G06 OIL INVAS 1 FRTH Oil Invasion (a game in forth)
G07 TI99OPOLY 1 XB32 A well done version of Monnpoly
G08 TRIVIA99 1 XB32 Trivia Game
G09 WIT GAMES 3 XB Scrabble type games
G10 WORD WIZ 1 XB32 A word game with text to speech
G11 ICSAMPLER 2 EAXB Samples of INFOCOM adventure games
G12 TOD*BASES 2 EAXB Tunnels of Doom with over 10 games
G13 FROG 1 XB32 Frog jump game from MicroPendium
G14 CHAINLINK 1 XB32 5.0 Solataire type game by Walt Howe
G15 GERMANXB1 1 XB Some XB games from Germany
G16 HOCKEYC99 1 EAXB Hockey game in C with good graphics
G17 BRIDGEBID 1 XB32 Bridge bidding with docs on BRIDGE
G18 MAZE-GROG 1 XB32 A Maze game for woodstock with docs
G19 STAPHGAME 1 XB32 Blackjack, Poker & Wheel of fortune
G20 ZODIAC 1 XB32 A Zodiac wheel of fortune with docs
G21 NUCLEAR99 1 XB32 Simulation of a Nuclear Plant
G22 TIRUNNER 1 XB32 TI Runner Screens & Editors + docs
G23 CARABBEY 1 XB32 NEW Carfax Abbey XB Adventure game
G24 TIRUNNER2 1 EAXB NEW New version of TI Runner
G25 ADVGAMES1 1 XB NEW Good XB Adventure Games #1
G26 ADVHINTS 1 TEXT NEW Hints for Scott Adam's Adventures
G27 WILL-WISP 1 XB32 NEW Will of the Wisp XB Adventure game
H01 CHECKBOOK 1 XB32 Cheque Book and Budget Management
H02 FASTTRANS 2 Checkbook Recapper/planner
H03 MP-BUDGET 1 MP Budget template for Multiplan
H04 PR BASE 3 2.1 A good personal data base program
H05 VCR-DB 1 A Database for your VCR Tapes
H06 RECORDS/+ 1 XB32 Data Base type prog. (Records Plus)
H07 AMORTIZAT 1 XB 9T9 AMORTIZAT by Jiri Svoboda (9T9 UG)
H08 CFS 3 XB32 5.0 Creative Filing System by Mark Beck
H09 TI-LEDGER 1 XB32 1.2 Like AUTOMATIC ACCOUNT on the IBMPC
H10 99-MAIL 1 EAXB A mail list (710 records per SSSD)
H11 MULTITAXS 2 MP 9T9 Canadian & Ontario TAX years 85-89
H12 PERECORDS 2 XB32 Personal Records Filing System
H13 CHQUEWRTE 1 XB32 Cheque Writer with docs
H14 BUDGTPRNT 1 EAXB Utilitiy for the Home Budget Module
H15 GENEALGY1 1 XB32 A program to record family roots
H16 GENEALGY2 1 EA GENEALOGY in Assembly from HV99 UG
H17 HOMEINVEN 1 XB A Home Inventory program
H18 PERBNKING 1 XB32 9T9 Personal Financial Record-Keeping
H19 REMINDME 1 EAXB NEW Fairware release of REMIND-ME disk
H20 RECIPIES 2 XB NEW Two disks of Recipies from BC99ers
H21 RAG-TIMP 2 MP NEW RAGs updated Multiplan v4.0 disk
I01 FORTHDOCS 5 TEXT Forth Manual on disk (incomplete)
I02 TIREWRITE 1 TEXT Helper file for TI-WRITER commands.
I03 TYPETTE 1 A Basic course in Beginners Typing
I04 TUTORIALS 1 XB Tutorials for XB
I05 SPEEDREAD 1 XB32 Tutorial for SPEED READING + tests
I06 GPLMANUAL 2 TEXT TI's GPL User's Guide ARCed
I07 PEBMANUAL 2 TEXT NEW TI's PEB Tech Manual ARCed
I08 JAPANESE 1 XB NEW Teach yourself a Japanese language
I09 TIBASE 4 TEXT NEW Tutorials on the TI-BASE package
M01 4thMUSIC 1 FRTH Music or Graphics Demo in Forth
M02 AXLE-F-EA 1 EA NEW Beverly Hills Cop theme song in EA
M03 MUSIC#01 1 EA Selection of good EA Music

M04 SORGAN 1 EA NEW A fancy computerized keyboard organ
M05 XBMUSIC#- > XB > > > XB music disks (06 disks so far)
M06 XMAS-1985 1 XB32 NEW A selection of XMAS music from 1985
M07 MAKERDEMO 1 EAXB NEW A demo of TI's Music Maker program!



M10 MUSIC-MAN 1 XB32 The MUSIC MAN album
M11 S-PACIFIC 1 XB32 The SOUTH PACIFIC album (volume I)
M12 WIZARD/OZ 1 XB32 The WIZARD OF OZ album
M13 PATSYCLNE 1 XB32 The best of PATSY CLINE album
M14 STARTREK 1 XB32 The STAR TREK album
M15 BEATLES 1 XB32 The BEATLES album
O01 C99PROGS 1 EA C99 Programs Disk A
O02 HV-1988 1 XB32 1988 MISC. FROM HUNTER VALLEY UG
O03 TI-PSYCHO 1 XB32 Simulation of a PSYCHIATRIST!
O04 GIRL/CALS 4 XB Prints a Girlie Calendar for 89
P01 BEAXS 2 XB32 Editor Assembler on Disk Version
P02 STAR 1 XB32 Super TI Assembly Routines for XB
P03 TI FORTH 1 EA TI FORTH programming language
P04 TI PILOT 2 EA TI PILOT programming language
P05 TOOL KIT 1 XB32 A set of programming utilities
P06 cBASIC 2 EA NEW cBasic Language Compiler v4.0
P07 P-SAMPLER 1 Sample of different languages
P08 XB*TOOLS 1 XB32 Tools to assist the Extended Basic
P09 EDP_2.1 1 XB32 2.1 Enhanced Display Package
P10 UTILDISKB 1 XB32 ACE,COLIST,DISK HACKER,TEXT-BASIC
P11 PULSAR 1 XB32 Assembly Routines for X/B use
P12 LISP99 1 EA LISP for the TI99
P13 FRACTUAL2 1 EA32 2.0 FRACTUAL EXPLORER with docs & demos
P14 XBTXTLOAD 1 XB32 Converts DIS/VAR80 to XB program
P15 GEE! 1 EAXB Graphics GEE! Language with docs
P16 NASTYXBOS 1 XB32 OS with a mind of it's own
P17 DASSM 1 FRTH Universal Disassembler in FORTH
P18 HOTBUG 2 EA NEW Hot debugger from Charles Earl
P19 RAGASM7 2 EAXB NEW RAGs v7.1 of 9900 MACRO ASSEMBLER
P20 RAGLNK3 2 EAXB NEW RAGs v3.0 of 9900/GPL LINKER
P21 RAGPLASM1 2 EAXB NEW RAGs v1.0 of GPL MACRO ASSEMBLER
P22 RAGPLDASM 2 EAXB NEW RAGs v1.0 of GPL DIS-AASSEMBLER
P23 RAGPLMANL 2 TEXT NEW RAGs GPL MANUAL (needed for above)
S01 SPEECH/01 1 TE2 Samples of singing speech programs
S02 TXTSPEECH 1 XB32 Text-To-Speech
S03 SPCHSPRWD 1 XB32 SUPERWORD for XB with docs & demo
T01 FT/OM/MT 2 EAXB — Fast-Term,Omega,Mass-Transfer
T02 TELCO 2 EAXB — DOES ANYONE HAVE THE LATEST VERSION
T04 DELPHIAID 1 XB32 Explains the DELPHI system
U01 CALENDARS 1 XB A set of different calenders progs.
U03 LABELER 1 XB Prints labels with over 110 logos
U05 SCREENDMP 1 Almost anyplace screen dump to PIO
U06 SYSTEMTST 1 XBMM TI system test for XB or MM by TI!
U07 UTILDISKA 1 EAXB — Seletion of Util's in XB and EA
U08 LOGODUMP 1 LOGO — Logo dump program (EA5 type loader)
U09 LOGOSTART 1 LOGO — Logo auto start program EA5 loader
U10 GRPHLISTR 1 EA Graphic Lister in c99 with docs
U11 NAMELOCK1 1 XB32 Label Maker, Mailing List, Calendar
U12 GRABLABEL 1 EAXB Grabber Label (similar to LABELER)
W01 BA WRITER 2 EAXB 1.3 TI Writer on Disk Version and more!
W02 CRUNCH 1 Crunches Dis/Var 80 files
W03 FUNNELWEB 2 EAXB NEW Latest 4.13 of wonderful Funnelweb
W04 FUNNELWB+ 2 XB32 Companion disk for FUNNELWEB
W05 1000WORDS 1 EAXB Print ARTIST pictures from TIWRITER
W06 TIWRITER2 1 TWTR 2.0 European Release of TI-WRITER
W07 RAGWRITER 1 EAXB 4.0 RAG software TI-WRITER with docs



**Stretch Yourself–
Unused Talents
Seldom Grow.**

News Release

Asgard 128K Memory System Released

Asgard is pleased to announce the completion and imminent availability of the *Asgard 128K Memory System*.

The *AMS* is a product of a two-year research and development program focused on increasing TI-99/4A memory capacity. Designed by a team of hardware and software experts guided by experienced businessmen, and with the assistance and insights of a wide range of users, this device represents the beginning of a new direction, as well as a blending of new and proven technology.

The *AMS* combines flexibility with reliability and compatibility. It is the first advanced memory system for the 99/4A designed to be used exclusively as memory for programs and data.

When installed in your Peripheral Expansion Box it functions as a 32K card with standard TI-99/4A software. It is completely transparent to virtually every other TI-99/4A peripheral - it will not conflict with any floppy or hard disk controllers, or even some RAM-disks. The card does not need to be configured - simply plug it in and turn on the computer. Because it uses little power the *AMS* is highly reliable.

Programs designed to work with the card can access up to 128K of CPU memory simply and with a minimum of restrictions on program design. Memory can be banked in 4K increments, within a few clock cycles, anywhere within the standard 32K memory space available to TI-99/4A programs. The design used by *AMS* is similar to that used by TI in their TI-99/8 computer - and is currently readily accessible to programs written in Assembly and GPL.

To assists in programming for the *AMS* example programs with source code as well as extensive technical documentation is included with the device. All materials were prepared by software designers to be as clear and comprehensive as possible to programmers - and not just other hardware designers. The result is what we believe to be the easiest to program extended memory device for the TI-99/4A.

For non-programmers, *AMS* will open the door to a variety of new programs currently under development by some of the brightest programmers in the TI community today. With four times as much space available, *AMS* compatible programs will be more capable, faster, and have much more capacity for storing data. Types of programs can be written that would be impossible in 32K. Compatible languages under development will allow even casual programmers to write programs with access to the memory.

AMS is not just a promise of new possibilities, it also represents a different way of doing things as well as a different approach to past problems.

While it may seem unusual that a software company would take the initiative in producing a new memory card, it's not so strange when you consider that you need software to make hardware useful, and a software company can insure that some of that software is written.

Further, to break with the long history of some developers (including TI) of playing favorites and of secrecy, Asgard guarantees we will freely provide any and all software developers as much information as they need to take advantage of the *AMS*. It's time to end the games that have hurt the community in the past, and to bury the hatchet somewhere other than in each others backs.

Finally, since no one likes buying something that becomes obsolete tomorrow - all users can be assured an investment in *AMS* will be protected by a company that has been serving the TI community for 10 years. Asgard will provide reasonably priced upgrades and even trade-in options as we continue to develop this technology. Further, we will work to insure that any software written for *AMS* will be fully compatible with future developments with few if any changes.

The *AMS* is not an end in itself, it is a beginning on a path to liberating the TI-99/4A from memory constraints. It also represents a new way to do business in the TI community.

The *Asgard 128K Memory System* requires a TI-99/4A with a Peripheral Expansion Box and a disk system. It is compatible with all disk controllers, all video cards, and some RAM-disks and memory cards, as well as virtually all other cards for the TI-99/4A. It is not guaranteed to function with the Myarc or Corcomp RAM-disks, or the TI, Corcomp or Myarc 32K cards. No problems have been encountered with Horizon RAM-disks to date.

The suggested retail price of the *AMS* is $119.95. At this time all design and testing of the design has been completed, and it is expected to be in stock by the end of September.

To order, send a check or money order for $119.95, plus $10.00 Shipping & Handling (in North America, $20.00 elsewhere for Airmail), to:

Asgard Software • P.O. Box 10306 • Rockville, MD 20859-0306

COD and Credit Card orders are not accepted. All order to U.S. customers will be shipped via UPS Ground - please allow 4-6 weeks for delivery.

Programmers may receive a free packet containing programming information by sending a post card to the above address. Again, please allow 4-6 weeks for delivery.

NEWJUG 99ER'S NEWSLETTER

MYARC REPAIRS

Many individuals who were contemplating what to do, if perchance their Myarc hardware should "GO CAFLOOEY" (that's a technical term) will be relelved by the following message.

```
32435 9-MAY 22:52  Hardware
     MYARC REPAIRS
     From: JTOMPKINS     To: ALL

Don Weldon called me earlier today and asked if I would
leave this message.  He says he is now and has been
unofficially making repairs to Myarc hardware for a few
years now. He says the only type of repairs he cannot
handle at the present time are the type of repairs that
have to do with the proprietary PAL chips. He also
mentioned he has desperately been trying to contact Lou to
try and work something out about those. Any way I felt it
would be worth mentioning that Don's company Secure
Electronics, is well equipped to make repairs and my
experiences with him in the past would suggest a prompt and
reliable service.
Secure Electronics
7759 So. Scepter Dr.  #7
Franklin Wisconsin 53132 - 2201
Phone(414)529-2173
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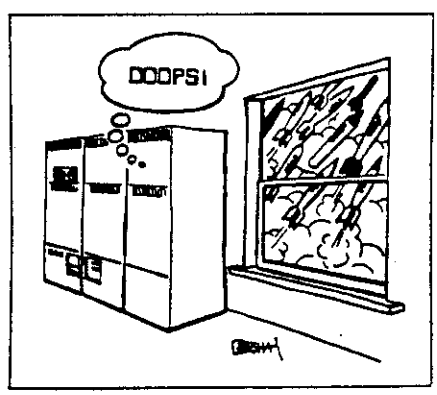

"TIPS FOR BEGINNERS"

-BY FRANK N. ZIC

*Here we go together No.15. I have often said that if I had a choice to keep only two disks from all the ones I own, one would have to be Superdisk for all my serious work and experimenting. The other would be a group of games which would happen to include Midnight Mason. Now aren't you just a little curious as to what makes the Superdisk so important? Let me interject right here that I also think that a fully filled-in FNLWEB/4*0 disk might also be your primary selection. At any rate the important point is that if you have a disk drive set-up and do not have either of these two disks, then you should go out of your way to obtain a copy of one or the other. Just think of having a Cataloger, Modem Emulator, Disk Manager, Disk+Aid, Fast Copier, TI-Writer, Loaders and a whole host of useful Utilities, all on the same disk.*

Yes, the programs break up very nicely to fit on both sides of a single sided disk. Boy, what power you have at your finger tips. Oh, Yes the game disk can have on it what ever games you like best. By the way my personal high score for Midnight Mason is currently 26,670. I'm really interested in knowing what some of the other high scores might be, let me know. Let's move on to some general information in a variety of areas:

**** Files that are down loaded in XMODEM, DIS/FIX 128 form will probably need to be Unarced to be useable. If they are in DIS/INT 128 form they will first have to be Uncompressed and then Unarced. Some times the term Arced is used incorrectly or too loosely. I've overheard people say, "Here is a copy of ???? that I down loaded from the BBS last night, you will have to Arc it." In all likely hood they should have said that you will have to Unarc it. The final conversion form should show up as DIS/VAR 80, which of course is readable with TI-Writer or in 40 column by using the read function in DM/1000.*

**** Don't forget about the quick and easy-to-use calculator that is built into our TI units. From Basic or XB, simply put in a line such as: PRINT 57+25 (Enter) or PRINT 38-16 (Enter) or PRINT 85*2 (Enter) or PRINT 95/5. Try it and you'll see how the answers come right up. Won't the kids be glad you reminded them of this little maneuver. Good for long columns too.*

**** Another nice math operation is when you want to obtain the Square Root of a number. Similarly as above enter, PRINT SQR (n). Fill in any number you want the Square Root of in the (n) position and the answer is quickly displayed out to 10 total digits. You must include the ( ) when setting up the problem. Neat.*

**** So you want to list out just certain lines from your total program listing. You can easily do this by entering, i.e., LIST "PIO" :: 140-260. This little step will allow you to print out a copy of lines 140 to 260. Alter the "PIO" for your specific printer.*

May the good 4's be with you.

HFDC INTERFACE PROBLEMS

Being a recent owner of MYARC's HFDC, I can really relate to the following two messages. I also experienced the same problems that Mr Seaman experienced. Hopefully, by now he's got his HFDC interfacing with his floppy drives. For me, it was a case of properly setting drive select on the hard drive, making sure that ALL cables are properly connected. If any cable is backwards (hard or floppy), the drive lights will come on and stay on.

32369 3-MAY 18:50 Hardware
HFDC
From: RSEAMAN To: ALL

I'm currently using both the HFDC and a Myarc DC with an 80 track chip. I would like to run off of the HFDC only but when I connected my floppies to the HFDC and powered up the lights came on and stayed on. The cable appeared to be connected properly and not switched around so I'm wondering if the the DIP switches need to be set in a certain way? If so, how? I'd also like to add my 3.5" drive and another DS/DD drive (no luck as of yet using the Myarc DC.) Trying to understand the users manual for the HFDC is above and beyond me- any help/info is greatly appreciated!! Thanks! -Bob-

32402 7-MAY 02:29 Hardware
RE: 3.25 mini drive (Re: Msg 32388)

From: TOMSFREE To: RSEAMAN (NR)

I'm not sure if all 3.5 in drives work with the 80 track eprom. I do know that all the TEAC DSDD drives I've seen anyone use are fine. As Jerry says, however, do NOT use HD disks in a DSDD drive. use normal disks and you will get 2880 sectors.

I have never been satisfied with anyone's description of how well things work with using floppy drives on the HFDC so, even though that was why I originally bought it (!!!) I have kept my Myarc FDC. Besides, I need to use Hypercopy and PCTransfer quite often, and these won't work on the HFDC.

HFDC FLAWS

The following five messages are intended as a warning for HFDC owners who were contemplating buying a 1.44mb floppy drive for use with HFDC. While the documentation may lead one to believe that it will support those drives, chances are that it won't.

32605 26-MAY 03:42 Hardware
RE: HFDC Problems (Re: Msg 32604)
From: JHWHITE To: JPLESLIE

Jonathan: The HFDC has a SMC9216 data separator on it. The 9216 is only rated to work with a maximum REFCLK frequency of 4.9 MHz. The crystal driving the 9216 is 8 MHz. The SMC92168, on the other hand, is rated to work up to a REFCLK frequency of 8.9 MHz.
As I said before in a previous message thread, SMC probably makes a batch of 9216's and tests samples of the batch. If the samples all test to work at 8.9 MHz or more, the chips are labelled 92168. If the samples all test to work between 4.9 and 8.9 MHz, the chips are labelled 9216. If the samples test less
With that analysis, there might be a 9216 that works at 8 MHz. But there is no way of telling by looking. By using the 92168, you are guaranteed 8.9 MHz operation. Thus, running a 92168 on the HFDC at 8 MHz is much safer than gambling on a 9216 that will operate reliably somewhere between 4.9 and 8.9 MHz, but not necessarily more than 4.9 MHz.
To summerize, unless MYARC tested all the 9216's they used on HFDC's for operation at 8 MHz (an unlikely event), replacing the 9216 with a 92168 will get the HFDC into spec.
Does the above make sense? The 9216 and 92168 are interchangeable up to 4.9 MHz operation. Running at 4 MHz would only allow single and double density transfers (quad density is 80-track double density). For high density (1.44 Meg) the 92168 must be used at 8 MHz for reliable operation. Jeff White

32646 28-MAY 04:49 Hardware
RE: HFDC Problems (Re: Msg 32621)
From: JHWHITE To: JPLESLIE

Jonathan: The 9216B is a direct replacement for the 9216 (not vice versa, though -- the 9216B covers the range of operation of the 9216, but the 9216 only covers half the range of operation of the 9216B). The 9216 is an 8-pin IC soldered on the HFDC. Pull the 9216, put in a standard 8-pin socket, and plug in a 9216B. That is the extent of the modification. Jeff

32683 30-MAY 04:15 Hardware
RE: HFDC Problems (Re: Msg 32673)
From: JHWHITE To: JPLESLIE

Jonathan: The 9216B should improve all floppy performance, not just 1.44 Meg. Though 1.44 Meg would show the most improvement. However, support for 1.44 Meg formats is non-existent in the DSR's. Backing up a hard drive to 1.44 Meg floppies with MDM5 formatted with one of the fairware utilities out there may work, but I won't guarentee it. The hardware fix gets the hardware into spec. That make the software more reliable only in the instances where the hardware can affect its operations. Jeff White

32359 2-MAY 22:54 Hardware
RE: HFDC (Re: Msg 32357)
From: JHWHITE To: RICHLINDWAY

MDM5 will not support 1.44 Meg formats. The EPROM on the HFDC does not have the support for 1.44 Meg drives, and it would be a tight squeeze if it were added. MDM5 is entirely dependent on the DSR available for the HFDC, be it the EPROM or Geneve Master DSR. There are no standards published for 1.44 Meg format for the 99/4A or 9640. Adopting the 720K format is not entirely satisfactory. A better approach, which I believe MYARC had considered when they planned 1.44 Meg support, is to adopt the hard drive format standards for high density drives. This would allow better bitmap and subdirectory handling. It is much easier to handle four sectors for the bitmap than make every bit in the bitmap represent an allocation unit of four sectors. Jeff White

32367 3-MAY 15:56 Hardware
RE: HFDC (Re: Msg 32357)
From: 9640NEWS To: RICHLINDWAY

Rich, you need to use a separate formatting program to reach the 1.44MB format, and then you may or may not have reliable operation of 1.44MB format depending upon the quality of the chips on your HFDC. I've been told that if you format them and your controller reliably works at 1.44MB, then you can use MDM5 to make backups of the hard drive. I know of only one person that has a card that can do this though.

In the NORTH COUNTY 99ers (May/June-92) is a SYSTEM SEARCH (VIA WEST PENN 99ERS ↓)

The FRONT RANGER OF DEC. 91 has a TI-RS232 fixed by Jack Mathis

Because of the small print, I am coping the artical. Any mastakes can be my typing or spelling. I recomend that you look at the FRONT RANGER or contact Jack.

I'll do my best to copy the best I can.

I recently had a TI RS232 card go bad. The RS232 operations functioned normally,but the PIO would not output. On the TI the light would come on and stay on. On the Geneve, the light would flicker very fast, but still wouldn't print.

I found the 74LS259 (U12) controlled the strobe line for the PIO port. I also found CRU 1300 addresses the 74LS259.

Bit 0 - turns on the card
1 - PIO sends data
2 - controls PIO strobe
3 - spare out pin 14 on PIO
4 - to 74LS259
5 - RS232 pin 5
6 - RS232 pin 13
7 - LED

If the light is able to come on, all address lines to the chip is working.

I further discovered the 74LS251 (U13) is for test bit functions.

Bit 0 - always off
1 - PIO sends data
2 - PIO acknowledge
3 - Spare in pin 13 on PIO
4 - from 74LS259
5 - RS232 pin 5
6 - RS232 pin 13
7 - LED

Bits 0,1,2 on both chips are needed for the PIO port to work properly. I replaced the 74LS259, tried the card to no avail. Replaced the 74LS251 tried with same results. Again replaced the 74LS259 and it worked. I belive the bad 74LS251 took out the frist 74LS259. I would recomend replacing both U12 and U13 at the same time, should you decide this is your problem.

WORDPLAY JUNE 1992 - Volume 11, No. 6

NEW RIBBONS OR OLD

by Marshall H. Ellis
Mid-South 99er Usr Group Memphis; April 1991

Since augmenting my computer with a printer I have generated a lot of paper copy. Funny how printers seem to go well with the computer, but that's another story. At one point I found that I was constantly running my ribbon 'till the print turned grey. Not wanting to splurge on a re-inking machine, and since the ribbon spools seemed cheap, I delayed looking into a solution. I just kept buying new ribbons.

About 2 years ago, while using my Star - Gemini 10X, I decided that I would begin spending less money on printer ribbons. A newsletter article from the Northcoast TI Chips User Group had alerted me to a useful product called Ribbon Re-New. A low viscosity lubricated printer ribbon ink for dry ribbons. Still, without an inking machine, I tried it out, and it worked! Even using manual methods, re-inking is like having an almost new ribbon, after allowing a few days to dry out.

Originally I was re-inking the spool ribbons used by the 10X. In order to keep things simple, I folded a finger sized piece of heavy paper towel in a 'v' shape, and positioned it behind the print head, toward the front panel. I placed the ribbon inside the paper loop, at the level of the print head. Then I could turn the spools by finger pressure while applying a few drops of ink to the pad. A little time in storage and it would be ready for use. This is where I also learned that a sure-fire cleaner is the mechanics' hand cleaner (GOOP). I'm sure that a re-inking machine would be much cleaner.

Now I have a Panasonic KX-P1180 printer (9pin) which uses a cartridge type ribbon. So, now I gently pry open the cartridge, apply a few sparing drops of the ink to the ribbon and to the roller pad, then close it up. After a thorough winding and a few days on the shelf, and turning the ribbon some more, it will be ready for use. One could also pass a folded pad under the exposed portion of the ribbon, and proceed as noted above. The provided instructions also note that their regular viscosity or roller cartridge viscosity ink, the thicker type, should be used for cartriges which have a self contained re-inking roller.

Since the time that I bought my supplies the prices have been stable. At this time, the low viscosity Ribbon Re-New, for rejuvenating old dry ribbons, sells for only $5.00 for a 2 oz. bottle. You could choose from three colors. The regular viscosity Ink sells for only $2.75 for a 2 oz. bottle, available in 10 different colors. Also they supply a thicker roller cartridge ink for $2.90 in a 2 oz. bottle for Panasonic type cartridges with re-inking rollers. The above noted prices include shipping costs. A variety of ribbons, inks, inking machines and cartridge refurbishing kits are also available.

These products are available from :
(215) 822 - 2989 voice
(215) 822 - 6394 fax

V - TECH, INC.
2223 Rebecca
Hatfield, Pa. 19440

********** MODEM CONNECTIONS:

The "standard" 1200 BPS "Hayes" modem pins:

TI RS232 card pins:

MODEM	SIGNAL	DIRECTION	TI CARD
Pin 1 --	Frame Ground	-----	Pin 1 -- Ground
Pin 2 --	Transmit Data	<<<<<	Pin 3 -- RS232/1 Data Out
Pin 3 --	Received Data	>>>>>	Pin 2 - RS232/1 Data In
Pin 4 --	N/C **		Pin 4 -- N/C
Pin 5 --	Clear to Send*	>>!<<	Pin 5 -- CTS,(CRU bit out)
Pin 20 --	Data Term Rdy	<<<<<	Pin 6 -- Data Set Ready1/2
Pin 7 --	Signal Ground	-----	Pin 7 -- Ground
Pin 8 --	norm. not used	<<	Pin 8 -- Carrier Detect #1
Pin 9-11	N/C		Pin 9-11 N/C
Pin 12 --	High Speed Ind.>> (+12v on 1200 BPS)		Pin / -- Used by BBS only on TI systems.
Pin / --	N/C [used by]	<<	Pin 12 -- Carrier Detect #2
Pin 13 --	N/C [RS232/2]	<<	Pin 13 -- CTS#2, CRU bit #2
Pin 14 --	N/C [port =)]	>>	Pin 14 -- RS232/2 Data In
Pin 15 --	Transmit Clock >>		Pin 15 -- N/C
Pin 16 --	N/C	<<	Pin 16 -- RS232/2 Data Out
Pin 17 --	Receive Clock >>		Pin 17 -- N/C
Pin 18 --	N/C		Pin 18 -- N/C
Pin 19 --	N/C	>>	Pin 19 -- Data Term Rdy #2
Pin 8 --	Carrier Detect +12v>		Pin(19)-- Used by BBS only
Pin 6 --	Data Set Ready	>>>>>	Pin 20 -- Data Term Rdy #1
Pin 21 --	N/C		Pin 21-25 N/C
Pin 22 --	Ring Indicator >> (+12v on rings)		Pin / -- Used by BBS only
Pin 24 --	Transmit Clock <<		Pin / -- from synchronous terminal only)

****

Actually, to make a working MODEM CABLE, only 6 wires need to be hooked up, for RS232/1 Port:

MODEM:		RS232 CARD
Pin 1	-----	Pin 1
Pin 2	-----	Pin 3
Pin 3	-----	Pin 2
Pin 6	-----	Pin 20
Pin 7	-----	Pin 7
Pin 20	-----	Pin 6

! Can be
! a single
! plug for
! accessing
! both Ports
! RS232/1 &
! RS232/2
! via two
! cables into
! two RS232
! devices.
----

and for the Port RS232/2:

MODEM:		RS232 CARD:
Pin 1	-----	Pin 1
Pin 2	-----	Pin 16
Pin 3	-----	Pin 14
Pin 6	-----	Pin 19
Pin 7	-----	Pin 7
Pin 20	-----	Pin 12 (or 6)

****

Note that you CANNOT make a single cable to hook up both Port 1 and Port 2 to a single modem, but you CAN make a double cable which will hook both PORTS, through a single plug at the card, to two separate devices, such as a printer and a modem, sharing ground pins 1 and 7 at the Card-end plug.

This wiring hookup shown for a modem will evade many of the problems people have encountered with the "switch settings" for these modems, which have often been "fudged" to correct for improper cabling, thus leaving the modem partly "out of control" by the card. On the other hand, it is possible to set the switches to "lock on" the Carrier Detect and DTR signals on the Modem, and loop Pin 6 back to Pin 20 at the RS232 card, and ONLY hook up: Pin 1 to Pin 1; Pin 2 to Pin 3; and Pin 3 to Pin 2; on a THREE WIRE cable, and have the modem work, though without proper status display, etc. Whatever "turns you on."

SWITCH SETTINGS: Another area of confusion. READ the manual with your modem. With a proper cable you want the DTR and the Carrier Detect and the CTS signals from the LINE, not locked on. You want Commands Recognized, Active; Verbal Display of Status Signals, Active; and Display Commands Active. You probably want Auto Answer Defeated; and Single Line selected. You want the Bell (Not CCITT) system; you may or may not want or be able to pre-select the speed default. WITH AN IMPROPER CABLE, you will have to LOCK ON the DTR, CD, and CTS signals, probably. If your modem DOES NOT WORK like your friends, using his cable, it does not mean your modem is bad. Your switches probably DO NOT MATCH his settings in function. PLEASE NOTE that "ON" on a switch DOES NOT MEAN THAT FUNCTION IS "ON". SOME "ON" positions activate a "DEFEAT" of that function, therefore, "OFF" is sometimes "on" on modem functions!!!! ENUF? Clear as mud, huh? GET HELP from someone who can interprete the manual if you can, or your U/G sysop maybe.

Please note that TI's pins #5 and #13 (CRU extra bits) would have been ever so much more useful if they had been available as "input" bits, for sensing such things as the "Ring", "High speed", "Carrier detect" signals, which NOW have to be read by such places as the CASSETTE PORT!
It actually does NO GOOD to hook up things such as pin 12 to pin 12, since the TI card cannot READ at pin 12, but is actually simulating an output AS IF IT WAS A COMMUNICATION DEVICE. Pin #19 CAN be read and is sometimes used with BBS systems to read for Carrier or for Ring or High Speed. With proper utilization of the "smart modem" status signals and switching, only the Carrier Detect needs to be monitored electrically, anyway.

END

WESTERN HORIZON TECHNOLOGIES INTRODUCES ---

```
 SSSSS      CCCC     SSSSS   IIIIIII
S     S    C    C   S     S     I
S          C        S           I
 S         C         S          I
  SSSSS    C          SSSSS     I
       S   C               S    I
        S  C                S   I
S      S    C    C  S      S    I
 SSSSS      CCCC    SSSSS   IIIIIII
```

HARD AND FLOPPY DISK CONTROLLER FOR THE TI
99/4A AND MYARC GENEVE

This advanced new peripheral for your Texas Instruments 99/4a or Myarc Geneve will expand your storage capacity to hundreds of megabytes. This high performance disk drive interface allows you to connect up to any combination of 7 SCSI hard and floppy drives with any capacity up to the SCSI limitations. You can connect floppy drives, both 3.5 and 5.25 inch, with current capacities up to 4 megabytes (unformatted). Or connect a Winchester drive with an astonishing 1.6 gigabytes of hard disk storage. You can even connect a CD ROM player for accss to hundreds of pictures and sounds.

This new peripheral will read and write TI floppies in all current formats as well as PC compatible floppies! That's right, you get PC TRANSFER (c) capabilities BUILT IN! You can now exchange data DIRECTLY with an IBM PC or compatible without having to convert!

Expand your disk capacity with this new SCSI controller designed by WHT avvailable SOON from Bud Mills Services.

PRELIMINARY PRICE-- $170 US

ALSO COMING SOON FROM WHT--

```
  4 4        /          M     M  EEEEEE  M     M  EEEEE  X     X
 4  4       /           MM   MM  E       MM   MM  E       X   X
4   4      /   A        M M M M  E       M M M M  E        X X
444444    /   A A       M  M  M  EEE     M  M  M  EEE       X
    4    /   A   A      M     M  E       M     M  E        X X
    4   /   A A A A     M     M  E       M     M  E       X   X
    4  /   A       A    M     M  EEEEEE  M     M  EEEEEE X     X
```

This advanced p-box memory expansion peripheral provides your TI 99/4a system with up to 16 MEGABYTES of PROGRAM SPACE on each card! Plus, you can install up to FOUR cards in one p-box for up to 64 MEGABYTES of memory for programs and data!

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Built using the latest AMD DRAM controller and SIMM technology, the 4a Memex allows an easy and INEXPENSIVE way to upgrade your computer's memory. Each 4a Memex supports INDUSTRY STANDARD SIMM MODULES for memory. SIMM modules

can be in 256k, 1 MB, and 4MB by 8 or 9 sizes in cheap 100ns or less speeds. four SIMM slots are available for memory configurations from 256k to 16 MB.

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PRELIMINARY PRICE—— $175 US, includes 1 MB of RAM

NOW SHIPPING!!!!!!

DIGI-PORT!!

Digi-port is a unique combination of hardware and software to allow your TI 99/4a or Myarc Geneve to play TRUE DIGITIZED SOUNDS from a MAC, Amiga. PC or any other digitized sound through your PIO port (1 or 2). The package includes an assembly (both TI and Geneve compatible) sound player that allows you to pick your sound from any directory or disk drive you may have. Digi-Port supports RAMBO compatible memory, such as a Horizon RAM DISK with RAMBO accessory or a 4a Memex. It also supports 32k or 9938/58 VDP memory (up to 192k) on BOTH the Geneve and 99/4a.

Included in each package are 10 sound disks containing sounds to play, the assembly player, and MDOS player for the Geneve that supports Geneve memory expansion and BASIC/EXTENDED BASIC call links for playing sounds with RAMBO memory on the 4a.

When combined with Alexander Hulpke's XHI, the XB link provides the FIRST MULTIMEDIA environment available on the 99/4a. Now you can write a SOUND AND SIGHT SPECTACULAR in EXTENDED BASIC and use the true POWER of your 99/4.

NOW SHIPPING FROM BUD MILLS SERIVICES——

3 PACKAGES AVAILABLE- SSSD, DSSD, DSDD

$40 US

***** ACCELERATOR UPDATE *****

The ACCELERATOR IS NOT DEAD YET! We received some information from TI that has solved one of the problems we were having. At this point we are preparing to build prototype PC boards for ROM development. We are currently negotiating with somebody about the ROM code development and we hope to have it available SOON! The accelerator will now contain an optional 32k Cache, and 128k or EPROM. In the EPROM will be a shell type program for loading and running all your programs. Prelminary price is still at $250.

WHT also provides you with inexpensive PAL / EPROM programming. For only $5 per chip, WHT can burn your program into an EPROM or PAL for your projects. We offer volume discounts and can supply you with the PAL/GAL/EPROM for your project. Call about our design services too!

I would like to thank you for your support you have given the TI community over the years.

WHT Can be reached any time by mail or phone at——

Western Horizon Technologies
Don O'Neil
10225 Jean Ellen Drive
Gilroy CA, 95020
(408)-848-5947

OUT OF BOUNDS

Expanded Capacity on Our Floppy Disk Drives
by Richard Roseen

Here is the scoop I found on the expanded storage capacity on the 360k MFM DDDD 135 tpi 3.5". The Atari and Amiga world are beginning to use the above type disks at a maximum of 82 tracks per side or cylinders.

The Amiga, Atari world is also using the above 3.5" disks with more sectors per track which is really how they get 880k. Their old 720k format is 80*2 trk * 9 sec/trk * 512 bytes/sec = 737k. Ours is the same 80*2 tracks * 9 sec/trk * 512 bytes/sec = 737k. Also other computers get as much as 800k capacity in 5.25" drives and disks by adding one or two more 512 byte sectors per track.

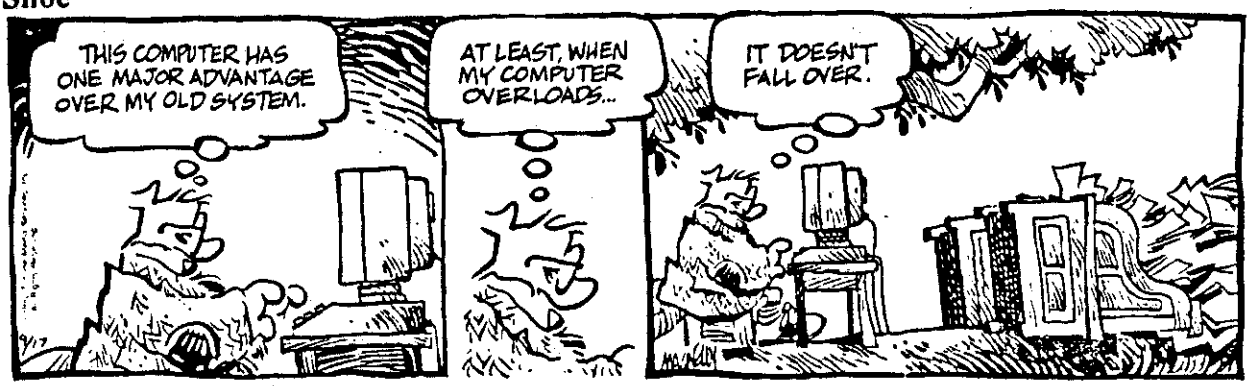
(Some of the 68000 computers use cylinder access, if you loose the byte map and you really get lost finding and recovering any files. I know from experience of recovering a file on a QL 3.5" in which the file was all over both sides of the disk. First logical sector of the file LS was at tr 28 si 1 sc 1, next 2 ls at tr 27 si 2 sc 6; next 3 ls at tr 28 si 2 sc 5; next 4 ls at tr 29 si 1 sc 2. The files on disk were fractured so the intial disk allocation rules as to skew, interlace and side select delay were not apparent.)

Using their format to illustrate calls for 512 byte sectors which are normally written in 9 sec/track (IBM format). At 82*2 trk * 9 sec/trk * 512 bytes/sec = 756k an extra 36k. Since we use 18 sec/trk at 256bytes/sec we would also have 756k. Measuring the 3.5" media gives about .75" * 135 tpi = . The drive head travel goes all the way out till it it starts hitting the plastic case of the 3.5", but there seems to be a gap between where the track sensor stops the head and the inner end of the plastic case. What does allow the AA world 880k capacity is formating with 11 sectors instead of 9. With 80 tracks this gives 880k. It has been pointed out the 3.5" 135 tpi dsdd media is claimed to be material of the quality of the 1.2 meg type used for the 1.2 meg 5.25" disks. However, if we start using 4 extra sectors/trk, (the AA world only needs two extra since they are at 512 bytes/sec) we are forcing more bits/track at higher risk than the 512 bytes/track format because of the larger amount of ID, gap and CRC bytes. 4 extra sec/trk * 2 sides * 80trk/side = 640 extra sectors which added to the 2880 sectors is well over the 3000 sector max for the Myarc standard 80 track bit map. Unless we adopt the 4 bits/sector 4 sec/block bit map that we would use for the 1.44 meg. 3.5" capacity disks. However, we could get carried away at this floppy bit map madness as I have seen the Kodak 3.3 meg. 5.25" drives availible at the $100 range and $20 sellout. If we use the 82trk/side 4 extra tracks * 18 sec/trk = 72 extra sectors we come well within the range of 3000 sector limit for the 2 sec/bit map of 80 track bit map now and

get the extra 36k. This I am sure would be used advantageously by a jumpboot disk. It would be another feature if programmers were made aware of what the different bit map capacities are and the need to use the system calls to ensure these compatibilies. We have 4 different formats for the 1 sec/bit bit map that all are aware of. The 2 sec/bit bit map has four now and with 82 trk/side they would be faced with 4 additional more.

With the 1.44 meg 3.5" disks and drives we would face with 4 or 8 additional formats at 80 or 82 trk/side respectively. Do we need more dense information in sector zero of our floppies? Trk/side or sec/trk or number of sides or number of density seem necessary. Should 3.5" 1.44 meg. disks have a triple density bit map or would it be simpler just to have a bigger bytes/sector? Should the hard disk and new MDOS multiple floppy directories carry individual bit maps Which alternative spells relief without going overly incompatible? The major obstical to expanding capacity of our floppies to the point others our is the natural insistance on 256 bytes per sectors. This is also true on our hard drives where it has been seen fit that we again use 256 bytes per sector. The limit is not just in capacity caused by small sectors creating more overhead bytes (CRC, GAP, ID bytes) and making moves to higher capacity more difficult and error prone because the increase above causes more total bits per track, but also in the speed with which accesses occur. Comparison between 512 and 256 bytes per sector may not show that much on floppy, but on a hard drive where space runs wild with file headers, directory headers, fragmented files and bit map, sure the day will come when a user hooks up a 60 meg. hard drive and finds to his surprise that his access to his files are slower than floppy. This may sound radical now, but if you were the first to experience it would you like to backup 60 megs. without a tape drive, so that you could reformat and start the files contiguous?

Shoe



– FROM OZAR 99ER NEWS

CS1$FINDEX: AN AUTOMATIC CASSETTE TAPE PROGRAM LOCATION SYSTEM

Review by Charles Good, Lima, OH UG

This one is for cassette tape users and for those interested in unusual programming techniques. Have you ever wondered if it was possible to mark with software the position of a specific program on a cassette tape full of many programs and then have the computer search the tape from the beginning until the specific desired program is found? TI did once develope such a system for its 99/8 computer, but TI's WAFERTAPE drive was never released. Coleco ADAM computers sccessfully use such a system. Not so for the TI99/4A, according to many well respected commentators. I have read again and again in our exchange newsletters expert comment to the effect that with the TI there is no way to automatically, under software control, advance a long cassette tape to the exact physical location where a program starts. Well..... way back as early as 1983 Joseph E. Bartle of Parish NY wrote a TI BASIC program that does this for the TI! I recently acquired a copy 1985 update of Joe's CS1$FINDEX program (still entirely in TI BASIC with no assembly routines) and after removing a few bugs I am quite impressed with capability of this software.

CS1$FINDEX will do its stuff even if you don't have a printed list of which programs are on a program tape, even if you are using a tape recorder that does not have a numerical tape counter, and even if you are using a tape recorder that is not automatically controlled on/off by the 99/4A. CS1$FINDEX finds semiautomatically the exact location of a program on a long tape. The manual tape recorder operations required of the user are all prompted from the screen. If you are using a TI compatible recorder, CS1$FINDEX will advance the tape to your program's location after you press fast foreward, and then automatically stop the tape. If you are using a tape recorder that the TI cannot automatically turn on and off, CS1$FINDEX will turn the screen from green to yellow and finally to red to indicate when you should manually press cassette STOP once the location of your program has been reached. Neat!

With CS1$FINDEX you can create a catalog of up to 10 programs you want to put on one side of a C60 tape and put this catalog at the beginning of the tape. The catalog includes program name (up to 12 characters with spaces anywhere), and there is also provision for catalog to display a 12 chracter comment for each of the 10 programs. You can then put your up to 10 programs onto the tape, with CS1$FINDEX advancing the tape recorder to the correct tape location where you should SAVE CS1 each program. It is necessary to reload CS1$FINDEX for each of the programs you put on the tape. Thus, users with only a console/cassette system will appreciate the fact that CS1$FINDEX is designed to be small enough to load into the MINIMEMORY module with SAVE MINIMEM. Then each time you need to load CS1$FINDEX, all you do is type OLD MINIMEM, and CS1$FINDEX boots in a few seconds. Otherwise it takes about 90 seconds to load CS1$FINDEX from tape.

Later, when you want to use the tape you load CS1$FINDEX into the computer and then load the tape's catalog from CS1$FINDEX. From the catalog display you select the number of the desired program on the tape. You are then instructed to rewind the tape to the beginning and press FAST FOREWARD. CS1$FINDEX then advances the tape to the program's location, automatically stops the tape if you are using a TI compatible recorder, displays the name of your program on the screen, and infores you this program has been located. Then CS1$FINDEX BREAKs to command mode and allows you to load your program in the normal way by typing OLD CS1 and following all the usual screen instructions, except that you DO NOT again "rewind cassette tape". CS1$FINDEX can easily be modified in extended basic to load the located tape program into the computer from within CS1$FINDEX rather than from command mode. Change line 1770 to read RUN "CS1".

If you already have a printed list of each program on the tape and in which order the programs occur, you can bipass the catalog loading procedure. When you RUN CS1$FINDEX your first option is "LOCATION SEARCH (Y/N)". From here you can use CS1$FINDEX to locate the first or second or third, etc, program on the tape without using time to boot the catalog.

What's the secret? How does CS1$FINDEX using only TI BASIC with no assembly routines do what all the experts say can't be done? Have you ever noticed how the tape recorder behaves when you read or write tape serial FILES (as opposed to PROGRAMS)? The recorder starts, reads in or writes what I presume to be a file header, then stops. Then the recorder starts again and reads or writes the first record and then stops. Then the recorder starts again and reads or writes the second record and then stops, etc, etc. The total number of start/stop cycles equals the number of records plus one. The computer controls the turning on and off of the tape recorder motor and IT DOESN"T MATTER TO THE COMPUTER IF THE RECORDER IS SET FOR PLAY OR FOR FAST FOREWARD. When searching for a program, CS1$FINDEX writes a false file to the tape, turning the tape recorder motor on and off several times as this file is written. The tape recorder is set for FAST FOREWARD rather than for RECORD as this file is written, so the tape never receives any data. The computer cannot directly sense that the tape is not getting any data, so the computer continues to turn the recorder motor on and off as it writes its fake file to the tape. When turned on, the tape advances very rapidly because the recorder is set for FAST FOREWARD. A tape file designed to write up to 10 records with a record length of 192 will go through up to 11 start/stop sequences on a C60 tape before the tape is completely wound up on the take up reel. This is how CS1$FINDX locates physical blocks of tape space in which to insert programs, and can later find a specific program located at any one of these physical blocks of tape space. The first block (corresponding to the false file's header) is where the catalog is stored, and the next 10 blocks (each corresponding to a false file record) are where the programs are stored. Enough space is included in each of the program storage blocks to store the largest possible tape PROGRAM.

LIMITATIONS: 1--You can't use CS1$FINDEX with already existing program filled tapes. The spacing of the programs on the tape won't be right. You need to load programs onto your program storage cassette tapes using CS1$FINDEX. 2--Problems may occur if different tape recorders are used to store and later play programs. If the FAST FOREWARD speed of the two recorders differs very much CS1$FINDEX will not correctly find the location of the desired program. 3--There is only room for a short program in the last (10th) program block before the tape runs out.

The author of CS1$FINDEX has written some rather wordy documentation files to explain the use of CS1$FINDEX. These files are in PROGRAM format so that they can be loaded from tape and read by console/cassette-only users. In general most users can play around with the program and figure out how to use it without these docs. A sample tape program finding catalog is printed below. The author, Joseph E. Bartle, has released it to the TI community as FAIRWARE. If you like it, send whatever you think it is worth to: 16 S & E Trailer Ct., Parish, NY 13131. Joe has other fairware offerings. Write or call him for details. User may obtain a copy of CS1$FINDEX and the above mentioned doc files by sending a disk and paid return mailer to sending a disk and paid return mailer to the Lima User the LIMA User Group, P.O. Box 647, Venedocia, OH 45894.