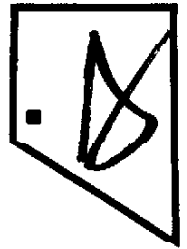




# NORTHERN NEVADA NINETY-NINERS NEWSLETTER



VOL. 2 - NO. 10

OCTOBER

1986

## NEXT MEETING

SATURDAY, NOVEMBER 29, 1986 11AM-3PM

PIZZA HUT 2200 B STREET SPARKS, NV

### MINUTES OF OCTOBER'S MEETING

President Dave Balanger opened the meeting at 11:28 a.m. and immediately turned the meeting over to Secretary Drew Wolak. As election of officers will be the next general membership meeting, Drew read excerpts of the groups constitution and by-laws which pertained to elections. In accordance with the by-laws, a nominating committee of five members was set up (none of whom are officers) and some nominations were taken. All incumbent officers were nominated for the offices which they now hold. Additionally, the office of vice-president is open for nominations. Nominations will be accepted from the floor at next month's election meeting and added to those names taken in nomination at this meeting. Before the next membership meeting, nominations can be made by submitting an accepting candidate's name to the nominating committee chairperson:

Ed Conradt  
944 5th st.  
Sparks, NV 89431

Along similar lines, it was the feeling after a year's experience of operating under the present constitution and by-laws that some amendments are in order. A motion proposing an amendment to the constitution and by-laws to split the office of Secretary-Editor into two separate positions was made and seconded. The motion carried. It is not clear at the time of this writing if both offices created by the proposed amendment will be elective, appointive or one elective and one appointive. Discussion of whether or not to include the split offices in nominations for next month's elections prior to a vote on the proposed amendment was not resolved.

Another motion proposing an amendment to the constitution and by-laws to change the elected office of librarian to an appointed office was made and seconded. This motion also carried.

Since both of these motions involve amending the constitution and by-laws of the group, notification of the

membership two weeks prior to a vote on the amendments is required by the constitution and by-laws. Next meeting will be important so please attend.

Because of the business conducted on elections and amendments, officer reports were not made this meeting.

Dave Balanger announced the beginning of Interest Group Meetings dealing with the subject of Telecommunications and Information Services. The first meeting will begin on Wednesday evening October 29, 1986 at the home of member Jerry Cohen. Several members who are subscribers of Information Services volunteered to donate "on line" time to the meetings. (Good news for Jerry) MCI, THE SOURCE, COMPUSERVE, and other services will be topics of discussion. For more info call Dave Balanger, President.

Next month will mark approximately the NORTHERN NEVADA NINETY-NINERS first anniversary. Since a goodly number of memberships are due to expire soon, a friendly reminder is hereby issued. In an effort to make the public aware of the groups existence, Dave once again motioned for money to run an ad in the paper. This motion was seconded and carried.

Acting Secretary  
Lewis W. Dawson

### PRESIDENTS MESSAGE

Hi friends its election time. I never realized that elections were so complicated. We spent most of last meeting setting it up for our next general meeting. Our last two Wednesday night meetings on telecommunication has been a big hit despite the talk of Jerry's broken telephone and his dwindling paper supply. HA! HA! It's our first anniversary and for a lot of us it's time to renew.

Ed Conrad purchased an RGB interface and a RGB monitor for his TI. He told me he may display his system at our next meeting.

Did anybody see the ad in the classifieds plugging our group??

I'd like to welcome our newest members Sandy Galze and Robert Mudge.

I'm going to close my message with a basic program that will read a display variable 80 file.

```
10 OPEN #1:"DSK1.YOUR FILE NAME"  
20 INPUT #1:A$  
30 PRINT A$  
40 GOTO 20  
RUN
```

THANK YOU  
David Belanger

### FOR SALE

THREE TI COMPUTERS FOR SALE CALL MIKE TAYLOR AT 673-2867

TI-99/4A COMPUTER WITH SOFTWARE MAKE OFFER TO ARTHUR WETMORE AT 673-3366

### COMBINE .DP AND .IF

By Mike Ewell

You can use the Define prompt (.DP) to be a variable in an Include file command (.IF) so that you can print a chain of files at will. The following file will do this for you:

```
001 .DP 1:name of file-(ie. DSK2.FILE)  
002 .IF DSK2.IF/DP
```

When you print out this file with the Text Formatter, first ask for 2 or more copies.

Answer the normal screen prompts as needed.

Then you will be given the screen prompt "NAME OF FILE-(ie. DSK2.FILE).

Type in the file name that you want.

When that file is printed you will be prompted again (it helps if you have some kind of print buffer).

If you did not ask for enough copies (files in this case), then just press "ENTER" without using any valid name and the prompt goes back up to the top of the screen and starts over without having to reload the formatter again.

#### IMPORTANT!!!

When using the Include File command, your file name cannot use the ampersand (&) symbol or the "at" sign (@). The program says that it "Cannot Open File". Since the ampersand and the "at" sign are print commands, the formatter will not let you use them. It does let you use the circumflex (required space) in a filename.



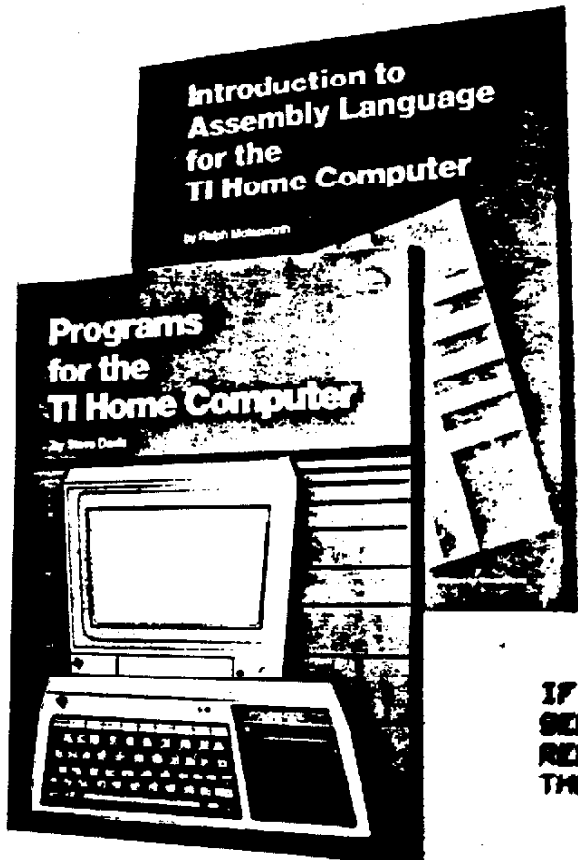
Catherine  
Deneuve



# THIS MAY BE YOUR LAST CHANCE

TO OWN TWO OF THE MOST SOUGHT AFTER BOOKS EVER PUBLISHED FOR YOU AND YOUR TI 99/4A COMPUTER!

AND YOU CAN RESERVE YOUR COPIES (WHILE THEY LAST) AT UNBELIEVABLE CLOSE-OUT PRICES!



THESE ARE THE SAME STEVE DAVIS BOOKS THAT NORMALLY COST NEARLY FIVE TIMES AS MUCH... WE HAVE PURCHASED THE ENTIRE STOCK OF FIVE THOUSAND BOOKS, AND NOW, WHILE THEY LAST, YOU CAN ORDER EITHER BOOK SINGLY FOR \$3.95 OR BOTH BOOKS FOR JUST \$7.98!

## Programs for the TI Home Computer

by Steve Davis

## AND Introduction to Assembly Language for the TI Home Computer

By Ralph Molesworth

IF YOU ARE NOT ENTIRELY SATISFIED WITH WHAT YOU SEE, SEND THEM BACK BY RETURN MAIL FOR A PROMPT REFUND. BUT DON'T DELAY! WHEN THESE ARE GONE, THEY ARE GONE!

At last, here is a book of programs written especially for users of the popular Texas Instruments 99/4 and 99/4A Home Computers. Fifty unique programs in TI BASIC and TI Extended BASIC are presented in an easy-to-read format ready for you to type into your computer at home. Most of the programs are listed in TI BASIC and may be used with just the computer and a cassette recorder, while others take advantage of the special capabilities of optional TI modules and peripheral equipment, such as TI Extended BASIC, Mini-Memory, Terminal Emulator II, the TI Speech Synthesizer, a printer or the Disk System. A wide variety of programs for home applications are featured, including games and entertainment, educational programs, math learning aids and more. Best of all, this volume offers programs that highlight the many unique features of the TI Home Computer, such as color graphics, music, sound or speech. Whether you are a beginner or an experienced TI Home Computer user, you will find this collection to be an entertaining and useful addition to your program library.

French Nouns	Introduction
French Teacher	Alligator Alley
Morse Coder	Chess
Speed Reader	Character
Plot	Echo
Sine and Cosine	Four-Letter Words
Circle	Lucky Seven
Crawl	Movie Star Out
Deci-Hex Converter	Murder
Hexi-Dec Converter	Ten-Up
Lower Case	Ti-Keno
Screen Speak	Ti-Quis
Speech Helper	Music Duration Translator
Disk Lister	Music Frequency Translator
Disk Lister Display	Cassette Program Printer
Ti-Ties	Airline Guide
Numerology	Keyword Article Search
Tarot Reader	Personal Banking
Talking TI Tarot	The Planner
Sprite Dance	Video Tape Player
Adventure in Oz	Color Bar Graphs
Oz File 1	Bar Graph Printer
Oz File 2	User Directory
Rainbow	Electronic Screensaver
	Mail-Writer
	Talking Teletype
	Talking Calculator
	Music Converter

# Introduction to Assembly Language for the TI Home Computer

By Ralph Molesworth

Introduction to  
Assembly Language  
for the  
TI Home Computer

This introductory text offers step by step instruction in getting started with the powerful TMS9900 Assembly Language for the Texas Instruments Home Computer. It is written to meet the needs of the beginner with a knowledge of TI BASIC who wishes to unlock the vast potential and speed of this popular 16 bit computer. This is an easy to read tutorial presenting simple to follow progressive steps from assembly language basics to the design and coding of useful programs and subroutines. Comparisons to TI BASIC statements help to teach you TMS9900 Assembly by building on your BASIC programming skills. Sample programs that can be entered with the TI Editor Assembler or Mini-Memory modules are included and explained in detail. Charts, tables and diagrams aid your understanding and are useful for future reference. Whether you wish to learn to write complete programs in TMS9900 Assembly Language, if you want to incorporate assembly routines into your TI BASIC and TI Extended BASIC programs, or even if you just wish to acquire a better understanding of how your TI Home Computer works, this book will help you.

**DATABIOTICS, INC.**

P.O. Box 1194, Palos Verdes Estates, Ca. 90274.



Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

QTY.	ORDER NUMBER	ITEM	TOTAL

Sub Total	_____
Calif. Res. Add 6 1/2%	_____
Shipping & Handling	<b>\$1.50</b>
Total	_____

THIS MONTHS PROGRAM COMES FROM THE OLD INTERNATIONAL USERS GROUP (NOW DEFUNCT) IT IS A VERY WELL WRITTEN AND WELL DOCUMENTED PIECE OF WORK. IT WILL RUN ON AN UNEXPANDED SYSTEM IN EITHER BASIC OR EXTENDED BASIC. THE PROGRAM CREATES A FIND THE WORDS IN A MAZE OF LETTERS ARRANGED IN A BLOCK FORMAT. THE WORDS CAN BE BACKWARDS OR FORWARDS, HORIZONTAL, VERTICAL OR DIAGONAL. HAVE FUN WITH IT.

100 REM \* WORD SEARCH GAME BY CHARLES STERNBERG--TI 99 /4 EDITON \*

110 REM THE SCREEN PRINT HAS BEEN COMPRESSED SO IT WILL FIT ON LARGER PUZZLES. IF YOU USE THE PROG WITHOUT A 120 REM PRINT ER, CHANGE LINE 970 TO 'PRINT L\$(I,J);" ";' LINE 1060 TO 'PRINT:;'. 130 CALL CLEAR

140 INPUT "DO YOU WISH COPY OF PUZZLE? (PRINTER ATTACHED) Y OR N>";C\$

150 CALL CLEAR

160 PRINT " \*\*WORD GAME \*\*::" (LIKE WORD SEARCH) " ::::

170 RANDOMIZE

180 REM

190 REM ---DATA INITIATION

200 DIM L\$(20,20)

210 DIM W\$(20)

220 DIM A\$(26)

230 A\$(1)="A"

240 A\$(2)="B"

250 A\$(3)="C"

260 A\$(4)="D"

270 A\$(5)="E"

280 A\$(6)="F"

290 A\$(7)="G"

300 A\$(8)="H"

310 A\$(9)="I"

320 A\$(10)="J"

330 A\$(11)="K"

340 A\$(12)="L"

350 A\$(13)="M"

360 A\$(14)="N"

370 A\$(15)="O"

380 A\$(16)="P"

390 A\$(17)="Q"

400 A\$(18)="R"

410 A\$(19)="S"

420 A\$(20)="T"

430 A\$(21)="U"

440 A\$(22)="V"

450 A\$(23)="W"

460 A\$(24)="X"

470 A\$(25)="Y"

480 A\$(26)="Z"

490 IF C\$(">Y") THEN 530

500 PRINT

510 INPUT "WANT TO TITLE YOUR PUZZLE? (ENTER TITLE OR NO) ">:T\$

520 PRINT

530 INPUT "ENTER # OF COLUMNS ">:C

540 IF C<=20 THEN 570

550 PRINT "# TOO LARGE"

560 GOTO 530

570 INPUT "ENTER # OF ROWS ">:R

580 IF R<=20 THEN 610

590 PRINT "# TOO LARGE"

600 GOTO 570

610 INPUT "ENTER # OF WORDS ">:M

620 IF M<=20 THEN 650

630 PRINT "# TOO LARGE"

640 GOTO 610

650 FOR I=1 TO C

660 FOR J=1 TO R

670 L\$(I,J)="."

680 NEXT J

690 NEXT I

700 FOR K=1 TO M

710 INPUT "ENTER WORD ">:W\$(K)

720 REM

730 GOSUB 1140

740 NEXT K

750 PRINT :::

760 INPUT " I'LL SHOW YOU WHERE I'VE HIDDEN THE WORDS IF YOU SAY PLEASE ">:G\$

770 PRINT ::::

780 IF G\$(">PLEASE") THEN 800

790 GOSUB 900

800 GOSUB 1930

810 PRINT

820 PRINT

830 GOSUB 900

840 REM ---TERMINATION POINT ---

850 INPUT "WANT TO PLAY AGAIN(Y OR N)":B\$

860 IF B\$="Y" THEN 490

870 PRINT "THANKS FOR PLAYING, BYE"::::

880 STOP

890 REM ---PUZZLE PRINT ROUTINE---

900 IF C\$(">Y") THEN 920

910 OPEN #1:"RS232/2.BA=9600"

920 FOR J=1 TO R

930 FOR I=1 TO C

940 F=264

950 TONE=F\*1.059463094\*(INT(RND\*24)+1)

960 CALL SOUND(50,TONE,20)

970 PRINT L\$(I,J);

980 IF C\$(">Y") THEN 1030

990 IF I<>1 THEN 1020

1000 PRINT #1:TAB(10);L\$(I,J);" ";

1010 GOTO 1030

1020 PRINT #1:L\$(I,J);" ";

1030 NEXT I

1040 IF C\$(">Y") THEN 1060

1050 PRINT #1:

1060 PRINT

1070 NEXT J

1080 FOR I=1 TO 500

1090 NEXT I

1100 IF C\$(">Y") THEN 1130

1110 PRINT #1:::

1120 CLOSE #1

1130 RETURN

1140 REM ---WORD BREAKDOWN ROUTINE---

1150 REM

1160 REM

1170 L0=LEN(W\$(K))

1180 REM ---RANDOM SELECTION OF DIRECTION---

1190 T=T+1

1200 IF T<100 THEN 1240

1210 PRINT "I COULDN'T FIT THE WORDS IN - SORRY, TRY AGAIN"

1220 T=0

1230 GOTO 530

1240 P=1

1250 P0=1

1260 Q=-1

1270 IF RND<=.5 THEN 1290

1280 Q=1

1290 Q0=-1

1300 IF RND<=.5 THEN 1320

1310 Q0=1

1320 D=2

1330 IF Q<>1 THEN 1350

1340 P=0

1350 IF D<>1 THEN 1370	1610 IF D=0 THEN 1720	* THEN 1180	2060 GOTO 2010
1360 P0=0	1620 FOR I=1 TO L0	1840 IF L\$(X2,X1+(I-1)*Q0)<>SEG\$(W\$(K),I,1) THEN 1180	2070 NEXT I
1370 IF RND<.75 THEN 1390	1630 IF L\$(X2+(I-1)*Q0,X1+(I-1)*Q0)="." THEN 1650	1850 NEXT I	2080 REM -PRINT TITLE TO PRINTER AND WORD LIST-
1380 D=1	1640 IF L\$(X2+(I-1)*Q0,X1+(I-1)*Q0)<>SEG\$(W\$(K),I,1) THEN 1180	1860 T=0	2090 IF C\$(>)*Y" THEN 2160
1390 IF RND<.25 THEN 1410	1650 NEXT I	1870 FOR I=1 TO L0-1	2100 OPEN #1:"RS232/2.BA=9600"
1400 D=0	1660 T=0	1880 L\$(X2,X1+I*Q)=SEG\$(W\$(K),I+1,1)	2110 IF T\$="NO" THEN 2140
1410 REM ---RANDOM SELECTION OF START POINT---	1670 FOR I=1 TO L0-1	1890 NEXT I	2120 PRINT #1::
1420 C0=C	1680 L\$(X2+I*Q0,X1+I*Q)=SEG\$(W\$(K),I+1,1)	1900 L\$(X2,X1)=SEG\$(W\$(K),I,1)	2130 PRINT #1:">>>";T\$;"<<<"
1430 R0=R	1690 NEXT I	1910 RETURN	2140 PRINT #1::
1440 IF D<>1 THEN 1460	1700 L\$(X2,X1)=SEG\$(W\$(K),I,1)	1920 REM ---FILL OF REMAINING POSITIONS---	2150 PRINT #1:" WORD LIST"
1450 R0=R-L0	1710 GOTO 1910	1930 FOR I=1 TO C	2160 PRINT
1460 IF D<>0 THEN 1480	1720 FOR I=1 TO L0	1940 FOR J=1 TO R	2170 CALL CLEAR
1470 C0=C-L0	1730 IF L\$(X2+(I-1)*Q0,X1)="." THEN 1750	1950 IF L\$(I,J)<>". " THEN 1980	2180 PRINT "WORD LIST";
1480 IF D<=1 THEN 1510	1740 IF L\$(X2+(I-1)*Q0,X1)<>SEG\$(W\$(K),I,1) THEN 1180	1960 Z1=(RND*.26+.01)*100	2190 FOR K=1 TO N
1490 R0=R-L0	1750 NEXT I	1970 L\$(I,J)=A\$(INT(Z1))	2200 CALL SOUND(200,K*220,20,2300/K,20)
1500 C0=C-L0	1760 T=0	1980 NEXT J	2210 PRINT " ";W\$(K);
1510 IF C0<>C THEN 1530	1770 FOR I=1 TO L0-1	1990 NEXT I	2220 IF C\$(>)*Y" THEN 2240
1520 P0=0	1780 L\$(X2+I*Q0,X1)=SEG\$(W\$(K),I+1,1)	2000 REM -BUBBLE SORT TO ARRANGE WORD LIST ALPHABETICALLY-	2230 PRINT #1:W\$(K)
1530 IF R0<>R THEN 1550	1790 NEXT I	2010 FOR I=1 TO N-1	2240 NEXT K
1540 P=0	1800 L\$(X2,X1)=SEG\$(W\$(K),I,1)	2020 IF W\$(I+1)>W\$(I) THEN 2070	2250 IF C\$(>)*Y" THEN 2280
1550 Z1=(R0*RND/100+.01)*100	1810 GOTO 1910	2030 LET W\$=W\$(I+1)	2260 PRINT #1:
1560 Z2=(C0*RND/100+.01)*100	1820 FOR I=1 TO L0	2040 LET W\$(I+1)=W\$(I)	2270 CLOSE #1
1570 X1=INT(Z1+P*L0)	1830 IF L\$(X2,X1+(I-1)*Q0)="." THEN 1180	2050 LET W\$(I)=W\$	2280 RETURN
1580 X2=INT(Z2+P0*L0)			2290 END
1590 REM ---ENTRY OF WORD IN THE PUZZLE---			
1600 IF D=1 THEN 1820			

PRESIDENT	DAVID BELANGER	742-7848
TREASURER	JOEL COPE	396-5478
SECRETARY	DAVID BELANGER	972-0205
PROGRAM LIBRARIAN	MICHAEL LYNN	889-3627
LENDING LIBRARIAN	JACK PAT	852-8965
BYE VISITING CHAIRMAN	BYE VISITING CHAIRMAN	873-2436

Millers Graphics is pleased to announce the release of two New Products for the 99/4A.

**NEW PROM SET FOR Corcomp Disk Controller Card**

---

This new PROM SET enhances the usefulness of the Double Density Disk Controller Cards. The following NEW features have now been added and can be accessed from TI Basic, Extended Basic and a GRAM KRACKER MSAVED Basic program. This will allow you to build a menu of all your favorite software and load it with a single key press. These new enhancements will allow you to load any type of assembly program without using the Editor Assembler module. The new CALLS added to the card are:

1. CALL ILR - Loads the standard E/A utilities into Low Memory.
2. CALL LR("DSKx.filename") - Loads a DIS/FIX 80, compressed or uncompressed, auto start or non-auto start Assembly language Program. (This is exactly the same as option 3 - Load and Run, on the E/A menu, including the automatic loading of the E/A utilities)
3. CALL LLR("startname") - This starts a non-auto start program. This is the same as option 4 - Run, on the E/A menu.
4. CALL RUN("DSKx.filename") - This loads Assembly PROGRAM IMAGE files like option 5 - Run Program, on the E/A menu. This CALL also automatically sets up the E/A environment in VDP Memory. (i.e. Characters, colors, registers etc.)
5. CALL RUN - This CALL without brackets or a filename automatically loads DSK1.UTIL1.
6. DELETE "XILR" - Sets up the E/A utilities into low memory from a running Extended Basic Program. It also sets up the Link names for the above CALLS and the other Tool Shed Utilities so they can be accessed from a running program!

Some Of The Other Enhancements Include:-----

1. Removed "9900 Disk Controller" Title Screen !! - which eliminates the problems with some of the modules like the lock up problem with E/A, TEII and Plato.
2. Improved Error Handling on ALL utilities.
3. Decrease Error Time Out - i.e. "Disk Not Initialized" now comes up faster
4. The Disk Manger will now auto load if you hold down the space bar on power up or reset
5. For the advanced user we have also added a DIRECT CPU RAM SECTOR I/O ROUTINE for faster loading!!
6. For Gram Kracker Owners we have modified the Tool Shed Utilities to allow them to be used in a running MSAVED program!

**Retail Price Information:**

GK UTILITY I - 10.00 (including shipping and handling)  
PROM SET - 34.95 (including shipping and handling)

## GK UTILITY I

---

This Utility Disk adds the following new enhancements to TI Extended Basic and The Editor Assembler Modules for Gram Kracker Owners.

### Extended Basic Enhancements:

LIST now allows you to specify the column length (i.e. 28,132 etc.)  
RES resequence all or just part of a program.  
TRACE the output from TRACE can now be sent to a printer or any other output device.  
COPY copies a block of program lines to another location in your program.  
DEL deletes selected blocks of program lines.  
MOVE moves blocks of program lines and automatically adjusts all GOTOs, GOSUBs etc. to point to the new location.  
CALL LOAD no longer checks to see if CALL INIT has been executed.  
CALL PEEKG for peeking values from GRAM or GROM addresses.  
CALL POKEG for poking values into GRAM addresses.  
CALL PEEKV for peeking values from VDP memory  
CALL POKEV for poking values into VDP memory.  
CALL QUITON enables use of the QUIT key.  
CALL QUITOFF disables use of the QUIT key.

New Cursor Control for program line, Inputs and Accept A/s editing. Fctn-Shift and the Up and Down arrow keys now allow you to move up and down screen rows within a program line listing on the screen. Fctn-Shift and the Left and Right arrows key move you to the beginning and end of the program line listing on the screen.

All Error Messages are now in upper and lower case.

Auto-Load of the file DSK1.LOAD can now be bypassed with the press of ANY key.

All of the XBCALLS from the MILK disk are still available (NEW, BYE, CLSALL, CLOCK, CLKOFF, CAT).

A new lower case character set with better ascenders and descenders is placed in GRAM 0.

### Editor/Assembler Enhancements:

For E/A input prompts, the Auto Repeat and Erase (Fctn 3) are now active.

Clear (Fctn 4) will erase the input line from the cursor to the end of the line.

Fctn-Shift Left and Right Arrow will place the cursor at the beginning and end of the input line.

Automatic Filename Recall - The last filename input will always be retained (even after powering off).

3 New items have been added to the E/A Menu:

6 - Extended Basic - directly executes XB without going through the Title Screen.

7 - Format RAMdisk - Formats the Myarc Ram disk by doing a CALL PART and CALL EMDK

8 - Catalog Disk - Catalogs a disk or Ram disk with out leaving the E/A module.

The GK UTILITY I can be installed as Extended Basic Enhancements only or as Extended Basic-Editor/Assembler (with the Editor and Assembler), your choice.

Note: with the XB-E/A combo installed, CALL EA is active from XB to directly execute the E/A module without going through the Title Screen.

The package comes complete with 22 pages of documentation including Technical Information on the locations in Gram that the new enhancements have modified so you can still add your own routines.



DATA BASE MANAGERS  
FOR THE TI-99/4A  
By Bill Gaskill

Some owners/authors of the applications I have covered in this article will no doubt be angered by the apparent brutality of it. I choose to view it as honesty rather than brutality. Too many reviewers white wash the weaknesses of TI software they critically review. I will not. I think sometimes that we are afraid that the software market will dry up and blow away unless we give favorable reports on the software products that do appear for our computer. I prefer to think of it in another way: if we promote junk software in a favorable light those that do publish product reviews will lose credibility, and those that buy software based upon those reviews will simply be that much more reluctant to get burned a second time.

In the process of searching for the perfect data base manager I have purchased several programs and spent over \$300. All of the programs that I own have positive points and all have negative points. What I have discovered to date is that the "perfect" data base manager does not exist, yet (not even in the business world). What I am going to share with you are my impressions of the programs I own, and in doing so, will perhaps save you a little time and money if you too are looking for that "perfect" application.

The programs I own are:

- ACORN 99 from Oak Tree Systems
- DBMS from Navarone Industries
- DATA BASE 1 from SPC Software
- DATA BASE 99 from Quality 99 Software
- DATA BASE 300 from the International Users Group
- DATA BASE X from Western Ware
- PRBASE V1.2 and V2.0 from William Warren
- TURBO DATAMAN from Easy Ware

I have used these programs enough to feel comfortable with each and could probably write several pages about each one. Unfortunately, publication space is limited and such a voluminous article would never see print because of it. Thus I have tried to be brief, but to the point, in my comments on each program. Also, please keep in mind that my comments are subjective, based upon how each product meets MY needs and expectations. Yours may be different.

For ease of reference I have included some of the information in a comparison table that allow analysis at a glance. In the paragraphs that follow I will try to provide a little detail to each issue and cover special features, lack of what I view as standard features and product performance of each program. I apologize in advance for the cryptic style you will read, however, I needed to be brief. The DATA BASE 300 program will not be looked at since it is not available.

ACORN 99:

Among the top three DBM's available to the TI community. The only relational data base available. Also, the only one with a programming language interface for custom applications. EXTREMELY powerful and

well designed. Can support three active files at one time, allows existing data file formats to be edited, copied to another file, resequenced and can reformat a file structure into another file format. Does not have the ability to show number of records in a file. Can hold more than 1500 records per file on a SS/SD disk (depending on file size). Sorts alpha characters and strings better than numbers. Indexes record location for subfile creation and mainfile is then concatenated to create the subfile as another database. Possesses ability to search, using; "equal to, unequal, greater than, less than, ignore" logical operators. Supports relational operators in search routines through the use of a true/false convention that allows selection of records where all parameters are met, or any parameters are met. CAN print a single record from a display screen. EXTREMELY slow in operation. Uses 40 column text mode. Allows duplicate key field data entries. Allows printer control codes to be encrypted in setup file. Provides input checking for "numeric, integer, money, string, flag and date" entries. Overall, a fabulous program, with almost limitless potential. The best documentation of the group, giving many examples along with explanations. SUPERB application.

#### DBMS (Navarone):

Allows 32,000 records per file, but only 350 per SS/SD diskette. Limits you to half that amount if you wish to sort the file since it creates a second sorted file that demands equal space on your data disk. Most interesting report generator I have ever seen, a cut and paste type affair that is really neat, but poorly documented. Excellent custom screen design module which includes help screens that you design. FAST FAST FAST. Requires unique key field entries only, which I find inconvenient. Documentation is better than originally written, but still confusing at times, and incomplete. Dotes on mundane things and skips over, or entirely omits, important things. Does totaling in reports, but no other computational work. Does not support single record printing, but can use the report module to scroll data on screen, write it to disk or send it to your printer. Can append new data fields to the end of an existing record, but cannot reformat the record in any other way. Can create subfiles, but you have to figure out how to do it for yourself because the documentation does not tell you how. It doesn't even mention subfiles. Allows printer control codes to be encrypted in Report Generation file. Does not perform input checking of any type. All data is considered to be a string entry. Best suited for a hard disk environment. Not difficult to use once you have "played" with it, but can be intimidating at first.

#### DATA BASE 1:

Best suited for mailing lists or other LIST type data files. Cumbersome design setup requiring records to be accessed by their relative position in the file (record number). You must first list the records by a specified field if you don't know the record number. Time consuming. Provides three pre-set mailing label report formats and one custom format for your own design. Will NOT do reports that have heading information. Includes several nice utilities, such as a formletter generator, disk file data base which creates a DB1 data base file out of the information on your library of disks. Does not provide for input checking, nor length of field entries. Only looks at the length of overall record. Does searches by "equal to" operator only,

on one data field at a time. Requires that you first create an index file and then search. To search by another field you must create another index file. Searches by a maximum of 5 characters in any field. Sorts are limited to 1000 records, no matter how many exist in the file, but both alpha and numeric sorts are offered. Subfiles can be created to a printer in the main program or to disk by using the Utilities options. Selection is by "equal to" or "between two values", which can be either alpha or numeric type.

#### DATA BASE 99:

More emphasis put on copy protection than on program performance. Allows custom screen design and claims 28 fields of up to 28 characters each. Would be a neat trick to do since four of the 24 rows on screen are used by program prompts. Fast assembly language interface for report generation. Cannot generate reports with headings and does not permit printer control codes to be inserted in report data. Does not save a format after design, so you will have to re-create it each time you want a report. Data is printed in continuous format without regard to page breaks or anything else. Design of layout is cumbersome, requiring you to conceptualize how many colons and/or semi-colons are needed to push the data across the page. Number of colons/semi-colons is limited to 127 characters allowed in a LINPUT command. A terrible system. Disk catalog accessed from main menu will crash program if you enter an alpha character instead of a number when it prompts for the disk drive number to be cataloged. Color is lost after a crash since it was CALLED from the LOAD program. Does not permit single record screen print (unless you buy the DB 99 Utilities), must use EDIT option to search for a record or search sequentially. Cannot go directly to a record by its relative position in the file. Will create subfiles to disk, allowing the search by "less than, equal to or greater than" operators. Search is limited to one field for all practical purposes. Sorts can be performed in ascending order, by any one field. Sort is an actual re-write of the file. All data is considered string information. No number crunching (again, unless you buy the DB99 Utilities), no input checking. Documentation consists of two 8 1/2" X 11" sheets of paper printed on both sides. Program is slow, inflexible, inconvenient in many ways and cumbersome to use. It might have been an advanced application two years ago. Today it is a dinosaur, even with the DB99 Utilities. Much too expensive.

#### DATA BASE X:

Very modular, meaning that each function (adding, editing, printing, deleting etc.) is a separate program that must be loaded each time you want to use that function. Does statistical analysis of data. Record counter is inaccurate, code of program is jumbled and entirely unstructured. Does not sort data, even though documentation uses the term "sort". What it means is "select". When DATA BASE X "sorts" by a particular parameter it is really selecting records for dumping to a printer that meet that parameter. Does allow selection between ranges. Cannot create subfiles, does not index existing records. Access of a record is done sequentially, unless you know the record number. No way to tell the record number, you must guess. Supports 1 or 2 disk drives. Excruciatingly slow. Requires that you name the data disk DBXDATA, for no good reason that I can see, otherwise program errors out. Does not save report definition, but does allow it to be printed in normal or compressed mode. Definition process is fairly simple, but

time consuming. Documentation is the "shabbiest" I have ever seen. It is photocopied and put into booklet form with the pages not even cut straight, so that some information is missing off of some pages. Overall, this program is JUNK! As with the IUG's DATA BASE 300/500, it never really belonged on the market in the state that it is in. Unfortunately, I didn't know that and paid out over \$30 to find out.

#### PRBASE:

Totally assembly language coded. THE BEST all-around application in my opinion. FAST, flexible, does virtually anything a user would want in the way of data handling, except number crunching. It will not do anything in that area. Treats all data as part of a big string just as DBMS and DATA BASE 99 do. As long as you own the PRB Utilities written by John Johnson you can create subfiles, other wise you can't. Has on-line help for commands, creates an index by any input field you choose and then accesses any record in about 1 second. Also has a FIND feature to look at data sequentially in any single field and a GLOBAL option that searches for a single data entry anywhere in the record. Saves up to five report formats, V2.0 allows you to format a data disk. Custom screen layout with terrific graphics options for borders/windows etc. is available. A tremendous program, well thought out, well designed, artistically executed. FAIRWARE!!! PRB Utilities are free for the asking as long as you provide the disk and mailer. Report design routine is cumbersome and confusing. Prints single record from screen display in either 40 or 80 column mode. Program is very sensitive about I/O device names. My copies (V1.2 and V2.0) both require PIO. to work rather than just PIO or PIO/1, etc. With number crunching abilities this program would be a perfect "flat-file data manager" for most TI users. As it is, the value and performance for a FAIRWARE application, or a commercial application too for that matter, is unsurpassed. If you don't have PR BASE then you are missing out on one of the premier productivity tools available to the TI Community.

#### TURBO DATAMAN:

This is the second most powerful and useful data manager, taking a backseat only to PR BASE. It runs slightly ahead of ACORN because it performs number crunching and is faster in operation. Like ACORN, TURBO DATAMAN allows you to create a dictionary of data items (fields) and then lets you choose from that library of fields to put a record together. Up to 30 fields are allowed per record. Twenty pre-defined records (file formats) can exist on one disk. Allows custom screen layout design, complete with graphics for borders/windows etc. Does input checking, allows secondary screen access, like ACORN's Detail Records. Allows formulas to be created and saved that perform the four basic math functions. Report definitions can be saved. Allows wildcard type operators in searches, will print single record from screen display. Provides "less than, greater than, equal to, not equal to, greater than or equal to, less than or equal to" operators in screen display and report generation modules. Permits sub-totals in reports that can be formatted like TI Extended Basic does with the IMAGE statement. Subfiles can be created through the report generator by sending the output selected to a disk file rather than a printer. The results must be converted back to INTERNAL, FIXED from DISPLAY FIXED before you can use it in the program however. TURBO DATAMAN does not provide you with that utility. The documentation instructs you to "write a program" to do it. Names used for different modules in the

program are confusing. Ex; ETOX, SKETCH, SKETCHR, FETCH. Should change names to more accurately reflect function of module. Documentation acceptable, but lacks adequate coverage in some areas. Utilities are provided to perform some mundane operations, such as counting the amount of records in a database. Reformatting or restructuring of an existing file is not permitted, unless the input field is appended to the end of a record format. This program needs some "fine tuning" in some areas, but is still an exciting productivity tool with immense possibilities. Its speed of operation is not fast, but acceptable. It is faster than ACORN. One can set up the SKETCH program to auto-load if desired, but the whole application should be centered around a menu in my opinion. As it is now, you must RUN each module from the READY> prompt when you need to use it, because every module exits with an END statement. If you don't own this program, you should. Whether you want to manage a mailing list or do accounting, TURBO DATAMAN is for you.

FEATURE TABLE:

FEATURE	ACORN99	OBMS	OB1	OB99	DB X	PRBASE	TURBO DM
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RECORDS/FILE	LIMITED BY DISK	32,000	LIMITED BY DISK	350-1400	LIMITED BY DISK	350/710	LIMITED BY DISK
FIELDS/REC.	54	25	10	28	10	32	30
MAX.RECORD LENGTH	255	255	245	246	246	246	255
MAX.FIELD LENGTH	40	40	28	28	28	246	28
MEMORY REQ'D	32K	32K	32K	32K	16K	32K	32K
LANUGUAGE	XB/ASSM	ASSM	XB/ASSM	XB/ASSM	XBASIC	ASSM	XB/ASSM
CUSTOM DESIGN SCREEN LAYOUT	NO	YES	NO	YES	NO	YES	YES
SCRN GRPHICS CAPABILITY	NO	NO	NO	NO	NO	YES	YES
ALTERED CHAR SET USED	NO	YES	YES	NO	NO	YES	NO
CUSTOM REPORT DEFINITION	YES	YES	YES	YES	YES	YES	YES
SAVES REPORT DEFINITION	NO	YES	YES	NO	NO	YES	YES