

8801 065

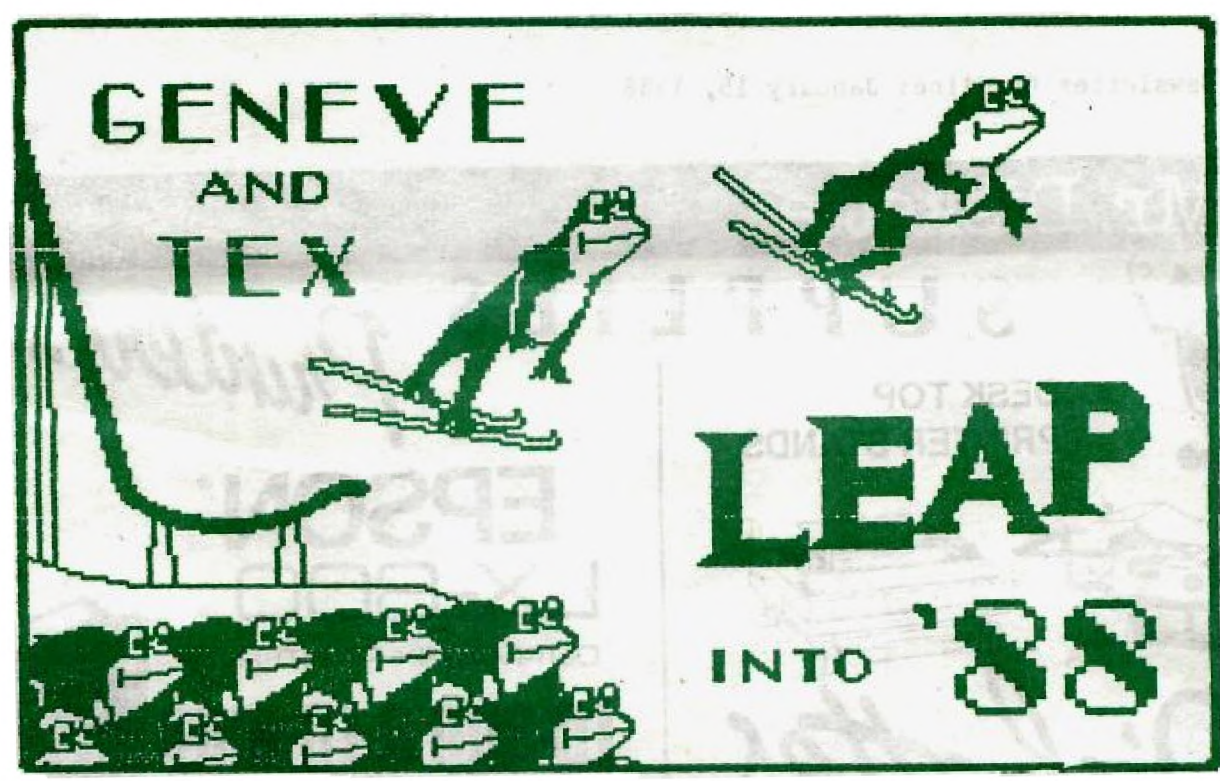
Ottawa



The Ottawa T.I.99/4A Users' Group



VOLUME 7 NUMBER 01.....JANUARY 1988



DON'T FORGET THE MEETING -- JANUARY 5, 1988

P.O. BOX 2144, STATION D, OTTAWA
*** ONTARIO, CANADA K1P 5W3 ***

COMING EVENTS

- January Meeting: January 5, 1988 Merivale High School
7:30 p.m.
- How To Run PRBASE: January 13, 1988 21 Northpark Drive, Gloucester
7:30 p.m. Contact Bill Sponchia for
further information.
- Beginners Assembly: January 20, 1988 Dick Piché's home
7:30 p.m. Contact Bill Sponchia for
further information.
- C Meeting: January 27, 1988 34 McLeod Street, Ottawa
7:30 p.m. Please call 234-8050 if interested.
- TI FEST: March 5, 1988 Merivale High School
9:00 a.m. - Mark it on your calendar and plan
5:30 p.m. to attend! Contact Jane Laflamme
for more information or to offer
your help.
- Software Contest: Deadline - Contact Bill Sponchia for more
March 1988 meeting information.
- Newsletter Deadline: January 15, 1988

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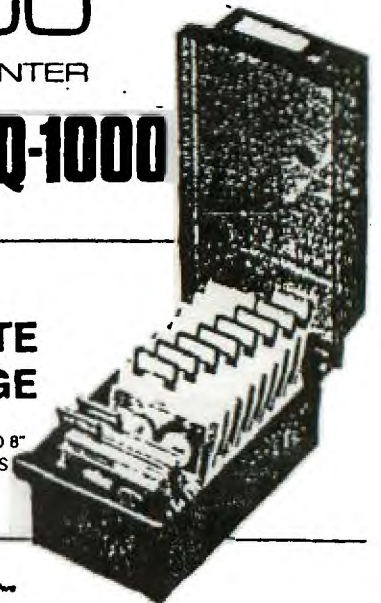
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EDITOR'S NOTES
from
Ruth O'Neill

It's been a busy season, but things will keep getting busier for those involved in the Fest preparations. March 5th is approaching quickly, and volunteers are still welcome. Contact Jane Laflamme if you think you can help. If you can't, just plan to be there and help make the day a success. See you there!

TI Fest '88 is only a part of the exciting year ahead of the club, so get your membership fees in to Lucie! If you can't be at the next meeting to renew (or join, certainly!) in person, mail in the form at the back with your cheque. The price hasn't gone up, so considering inflation, membership is an even better bargain than last year.

As far as the newsletter is concerned, I'm finding it very exciting to have new people contributing. If you have anything you'd like to write about, let me know. I would also like to encourage you to go to Bill with your problems, questions, or helpful hints for his questions and answers column (read more about it elsewhere in this newsletter). Remember, even if you find the answer before the newsletter gets into print, the solution to your problem may benefit someone else. Bill has also asked me to mention that there will be a FastTerm "How to Run" in February. The next deadline is January 15, 1988, so get your ideas, articles, or trading post items in by then. Of course, early submissions are always welcome. And, of course, thanks again, Lucie, for this month's cover art.

There is little to report on from the executive meeting, since the one planned for December 15 was cancelled because of the snowstorm. At the January meeting, those teams who did not have an opportunity to play TI Invaders for the contest will take their turns at the game so that a winning team can be selected.

Software Contest
by Bill Sponchia

Through discussions with various members it appears that there may be some confusion regarding the Software Contest this year.

The main theme of the contest is Participation, and to achieve that I decided (with Executive approval) to divide it between "Pros" and "Ams". No, this does not mean a good programmer can only enter the "Pros" and a mediocre one (there is no such thing as a "bad" programmer in our club) must go into the "Ams".

The designations only mean the type of contest which you are entering. The "Pros" entries will be judged against all other entries in that category and a winner will be declared. This winner will be crowned "Best Programmer of 1988". The contest rules spell out the criteria on which the program will be evaluated.

The "Ams" entries are not competing against anyone and are considered "Winners" just on the basis that they are entered. The purpose of this category is to give the programmer a chance to show off his/her talents without having the fear of "competing" against someone else. It also gives the club the opportunity to pick up those small, "unimportant" and "uninteresting" programs you wrote on the spur of the moment to get a particular job done. There is great value in them; if not for the actual program itself, then for the techniques used to accomplish the task.

To summarize, it can be seen that any program can be entered into either category and any programmer can enter programs into either category. In fact I am expecting some programmers to submit one (or more) programs for each of the categories.

Although I am not expecting any "Pro" entries until much later it is hoped that "Am" entries will be handed in on a continuous basis.

Thanks for your Participation.

BROWSING THE LIBRARY
--with STEPHEN BRIDGETT

This month I want to talk to the out of towners, particularly those of you who are members of the Ottawa Group, and who have written to us. Sometimes it may seem as if you are hollering down a bottomless pit, I am sure. The truth of the matter is that the library committee really enjoys your feedback and requests. Although the turn around time is not as quick as any of us would like, I think that many members and non-members who have written to us really appreciate the enthusiasm with which we respond. In fact, I have made many long distance calls to those of you who I felt were getting left behind. We are sensitive to the needs of the small groups and individuals who continue to enjoy the TI with all the sense of play as on the day they purchased it.

I want to encourage those of you who need a larger group to associate with, for that sense of camaraderie and/or support, to drop us a line. If you do, and especially if requesting software, be sure to tell us how your system is configured. Often a package will needlessly go out single sided and may involve a lot of extra work and precious time when it is not necessary. For those adventurous groups, remember that our club supports one of the finest bulletin boards around. You can call (613) 738-0617 24 hrs, 7 days. If you are part of a small group, perhaps a late Friday night get-together is the answer. We do this on occasion, each kicking in \$5 for the telephone bill. It's a great way to share the fun of BBSing and a sure way to get prompt replies for your needs. At the same time, let us know how many you are, and give us an idea of how you're getting on as a group. Our membership is over 150, so there is a lot of expertise at your disposal.

Be sure to have your TI XB part number, located on the module, at hand.

For the locals, the Library Committee is looking for some feedback. The Disk of the Month goes from boom to bust and we would like to smooth out the rough spots. What, if anything, would you like to see as a disk of the month? Here is an opportunity for those of you who have little time for major contributions to committees etc., to help just a bit. At one time the monthly disk was a major source of much needed income for the club. If you have an idea or a request please let us know at 521-3631.

The telephone survey has the Christmas blues. Dan McCormick is keen but like all of us, is short on that commodity time. If you want to spend a little time in January you may consider taking 10 names and helping out. Dan is anxious to get the info on data base. Call your library.

DISK OF THE MONTH RECORD

1. OCT 86 BOSTON UTILITIES, excellent variety of software
2. NOV 86 "
3. DEC 86 XMAS MUSIC
4. JAN 86 TI DIAGNOSTICS 2 DISKS, XB and MM
5. FEB 86 MAX-RLE AND PICTURES, hi-res computer scanned pictures
6. MAR 86 M. KROLL'S FAREWARE DISK, the library cataloger
7. NOV 87 VCR FILER, catalogue 175 movies
8. DEC 87 SPRITEBILD, the cadillac version, with over 100 ready-made
9. JAN 87 SORGAN, music synthesizer and the best I've seen

SORGAN came to me from one of our out of towners -- thanks, Frank Munro. This is an excellent music synthesizer written in fast assembly language. You can load it from your module, Funnelwriter or the assembler on disk. If you or your kids are into keyboard music, you'll want to play with this one. It's another gem, characteristic of the mature software now available for the TI. Single Sided, one disk, with docs, see you at the meeting or call the library to reserve your copy.

One of the highlights of my month is our TI meeting. The friendship we share is wonderful. Those of you who are regulars know what I mean. I sincerely invite everyone to come out in '88 and enjoy the spirit of the loyal, die-hard TI'ers. We are not JUST another user group, but a circle of old friends, always open to newcomers.

P.S. See you at McDonald's for our post meeting huddle!

"How to Run "
by Bill Sponchia

As announced at the last meeting and in the Newsletter, I hope to co-ordinate seminars on learning how to run various software programs and packages.

This is not meant just to be demonstrations, but to explain and teach the participants how to get the program up and running.

If you could let me know what program you want to learn (or learn more about) I will arrange a time, a place and an instructor. In some cases, depending on the interest and the location, attendance may be restricted and then we will have re-runs of the seminar.

Although nothing is cast in stone, I believe the format of the seminar would look something like this:

- 1 - Introduction to the program -- possibly a short demonstration.
- 2 - How to get the program running -
 - a) equipment requirements,
 - b) software requirements,
 - c) step-by-step instructions for initial use and for subsequent use.
- 3 - Helpful Hints on
 - a) applications of usage,
 - b) easier use of the program.
- 4 - Questions and Answers.

The first seminar will be on "PRBASE" with Henri Monat the instructor>

Date: Wednesday, January 13th

Time: 7:30 PM

Location: 21 Northpark Drive, Gloucester

Although it is not absolutely necessary, if you plan to attend please let me (523-0878) or Henri (824-0941) know. This will help us considerably.

As was pointed out earlier, your suggestions for seminars to run would be appreciated. Please note that this is not just restricted to utility programs; if you have a particular game you want to learn about, let me know.

If anyone out there would like to be an instructor, please let me know the program you want to instruct and when you want to do it.

"Questions & Answers"
by Bill Sponchia

Do you have a question?

Have a problem?

Maybe I can be of help. I'm not professing to know it all but what I don't know isn't of any importance... no, no, what I meant to say is what I don't know I'll try to find out for you. The question can be on anything concerning our computer (software or hardware).

I just remembered that with that restriction I wouldn't be able to tell you that is considered "improper" while dining with royalty to pick up your bowl of soup and drink it. Now what are you going to do on that next big occasion?

You can contact in any one of four ways:

- 1 - phone 523-0878. Leave a name and number if I'm not home and I will contact you.
- 2 - write a letter to the Users Group address
- 3 - write a letter to my address -
1051 Harkness Avenue
Ottawa, Ontario K1V 6N9
- 4 - leave a message on the BBS (for those who know me, Yes, you read that correctly if you can't beat them, join them. Besides, now that my kids have their own phone, mine doesn't seem to be in use very much).

If you had a problem and have since worked it out, let me know about it and the solution. Very likely there are others out there who will have or are having the same problem.

Also let me know of any "tricks" that you may have picked up so that I can pass them on.

Well, I now leave it all up to you. By the way, if you have a suggestion for a name for this column, let me know that as well.

Personal Note: If anyone out there has a "Strat-O-Matic Baseball Game" and would be interested in seeing a program I wrote to convert it to the computer, get in touch.

Thanks - see you.

YOUR QUESTION COULD APPEAR

HERE!!

WITH AN ANSWER

HERE!!

The Ottawa T.I.99/4A Users' Group
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TI Fest '88

March 5, 1988

9am to 5:30pm

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(for the TI Extended Basic Module.)

GENEVE UPDATE (As at Dec.17/87)
by Jack Adams

The last two weeks of November and the first two weeks of December are super busy weeks for me, so I really haven't had the time to research any of the recent progress made to date. So I'll consolidate information picked from my findings at home and Jane Laflamme's recent message to the BBS.

1. MDOS has been upgraded slightly from Ver .99b to Ver 1.0. The outstanding change here is that now the AUTOEXEC file will load from the Horizon Ramdisk, where it previously would load only from DSK1.

2. If you are still having trouble getting MyWord to load from DSK6, it may be because of download errors if you got the RAG/V2;ARC from the BBS. (see the December issue of the NEWSLETTER) Give Jane a call at her work number and she will send you 3 updated diskettes for a small fee. It's well worth all the trouble. If you have a Horizon ramdisk and make use of AUTOEXEC, a cold boot can be a smooth thing. In my case, after the swan, there is a date and time check followed by an automatic load of GPL. Next I load GENUUTIL6. GENUUTIL6 provides a new menu with five titles.

1. TI BASIC
2. DM1000
3. MYWORD
4. RUN A PROGRAM FILE (from any disk)
5. LOAD GENEVE UTILITIES

Selecting option 5. gets you a second menu :

1. SET CLOCK
2. SHOW DIRECTORY
3. SHORTEN GRAM MODULE
4. PRINT A FILE

3. The new year is supposed to bring some new tidings :

- a) An update on GPL (Ver.98)
- b) Ver.1.1 MyWord (might run from MDOS)
- c) A programmer's software package (\$175)
- d) A professionally developed "C" compiler.
- e) A data base program something like ACORN 99 but with 80 columns (less sophisticated than MY-DATA.)
- f) MY-WINDOWS, which is similar to the Microsoft WINDOWS developed for IBM.
- g) VIDEO CHESS FIX to repair two files that were made available from a disk dump. A game may be saved to disk.
- h) MYARC DMIII V2.1 that will run only on GENEVE and will default to 18 sectors rather than 16.

Wishing you all a happy holiday season and many more updates,

Jack Adams

About Archives

by
Henri Monat

WHAT IS "ARCHIVES"?

Archives is an index of all in-depth articles published in the Ottawa TI 99/4A Users Group Newsletter since September 1982, up to and including December 1987. It has been made through the excellent PRBASE program by William Warren, version 2.

WHAT CAN I FIND IN "ARCHIVES"?

All articles were looked into and classified by topics. All articles indexed have a primary subject and a brief description of their content. Most of them also have a secondary subject, and where necessary, a tertiary one. Besides the subjects and the description of the articles, each record gives the reader the name of the author, the date published and, where necessary, other relevant information.

COULD YOU GIVE SOME EXAMPLES?

Hints on games, programs in BASIC and Assembler to demonstrate the use of an interrupt. BASIC program reproducing the Canadian flag. Learning TI-FORTH. Tips on TI-WRITER. Revision of Software. Quiz and a puzzle. Hardware modifications etc.

ARE THERE ANY ARTICLES THAT WERE NOT INDEXED?

The objective of the Index is to have quick access as a reference tool, to in-depth articles that would have been lost otherwise. Where, in the opinion of the author, an article need not be kept for future reference, it was not indexed in "Archives". For example, all "Chairman's two cents worth" articles and current news from the Group or other clubs were not retained. Only the most recent "High scores" and "book dist" articles were kept. The "NUAC NEWS" "Browsing the Library" and other similar columns were partly retained, when applicable under the primary subject "New products".

HOW CAN I LOAD AND CONSULT "ARCHIVES"?

You must first load the main menu of PRBASE and choose option 2, "Data Management". At the "Data Management" screen, press any key, insert your "ARCHIVES" diskette and type DSKn.Archives (cr). PRBASE automatically builds an index under the primary subject and gives you screen number 1. Pressing H (Help) displays on screen all the available keys. Choosing the right key depends on the search you want. If, for example, you are looking for a revision of TI-Artist, you may press F to Find string in a specific field or G for the Global search. Longer searches, such as finding all articles dealing with Assembler, would require first the S key to Sort the data included into the memory index; then, press U to Use the index to find Assembler, or even FCTN-X for next alphabetical screen, and so on by pressing FCTN-X to get each next alphabetical screen. It should be noted that the I key is also available to build a new (unsorted) Index in a specific field. Full explanations of the various keys are in the excellent documentation provided with PRBASE.

HOW CAN ONE SPEED UP SEARCHES?

Understanding how the index was made will speed up searches. The primary field is the most important one, and therefore it is the main subject dealt with in the article. The secondary field is the subject which comes in support of the first one. For instance, the listing of a BASIC program should fall under "Program" as primary subject and "BASIC" as secondary subject. However, if, in the opinion of the Author of the index, the article deals with learning BASIC, into which a listing is incorporated, the primary subject should be "BASIC", and the secondary "Program". Software evaluation, revisions and analysis are always listed under their names as a primary subject. Finally, to speed up searches, TI-Writer, TI-Artist, TI-Runner etc. are listed under Writer, Artist or Runner.

DO I HAVE TO PRINT THE INDEX TO CONSULT IT?

You can print the index or part of it if you want, with the P (Print) key.

"Archives" also provides for a suggested tabular 3-line report for each record: simply press R (Report) and answer the questions. However, "Archives" has been made for on-screen reading: the screen has been designed to make it more appealing to the eyes and the design takes into consideration those who have a TV rather than a monitor. The colours chosen are a matter of personnel needs or taste; at the title screen, press B for Background or F for Foreground and choose the right combinations for you. To save them, you must be in option 1 of PRBASE (Database creation) and just follow the instructions.

ANY OTHER RELEVANT INFORMATION?

The author wishes to thank Yvan Breton and Lucie Dorais. Yvan helped to design the Data Base and Lucie created the suggested tabular report and provided useful suggestions in the quality control. Readers are most welcome to bring to my attention any errors, omissions, additions or suggestions to improve the quality of "Archives"

XB-GRAPHICS by Tim Slack

Have you ever run an Extended Basic program, and after interrupting it for a listing, wondered how the programmer got the actual graphic characters he defined with a CALL CHAR statement to appear in the listing?

```
eg. 100 CALL CHAR(129,"367F7F7F3E1C0800")
    110 DISPLAY AT(12,12)ERASE ALL:"AAAAAAA"
```

Type this example, replacing each "A" in the print string on line 110 with a CTRL-A. If you've just powered-up, these will appear as spaces for the moment. Now run this two-line program to see what I mean. Now do a LIST and note that the CTRL-A's now show up as little hearts as defined by line 100. (Lucie loves that romantic stuff)

The explanation is really simple! If you look on page III-2 of the good old green "User's Reference Guide", you'll see that Control Characters, as well as some Function keys, have an ASCII Code assigned to them. Control A through Z plus . ; = 8 9 have ASCII codes from 129 to 159. Note that this is the same range as Character Sets 13 to 16 which can be placed on the screen as graphic characters. (Sets 15 and 16 are reserved for Sprites in Extended Basic but can be used for graphic assignments in Console Basic.) Line 100 above assigns a heart shape to ASCII Code 129 which is represented by Control A. In line 110 the little row of hearts are displayed on the screen. The alternative to this method would be:

```
110 DISPLAY AT(12,12)ERASE ALL:RPT$(CHR$(129),8)
```

This is a bit more complicated and forces the programmer to remember how character 129 was defined. (The CALL CHAR statement must be executed first though in order to redefine CTRL-A from the "power-up" blank or previous character assignment.

This code is slightly more efficient, especially when you're putting a lot of graphics on the screen. Give it a try! You might even learn to like it, and besides, the screen listing may impress your friends.

...TIM

FAST EXTENDED BASIC

LUCIE DORRIS

From the reactions of my friends in Ottawa, it seems that "real programs" are what they like! So I decided to give you a short utility that I wrote a few months ago, then reworked a little bit.

This DISK CATALOGUER was developed when I was going through our dear Berry's disk library: I had to read and print many catalogs, and did not want to leave XB and load DM1000 each time. I also wanted a "no frills" program that would load and run quickly: one input, then zoom, it does what it has to do.

The cataloguing portion proper is not new: it is the Basic program suggested by Texas Instruments, and found all over the place. I added the printing function and the "avail. space only" and "delete" features, and since I work with DSDD disks, which can be quite long to catalog, I wanted the program to stop at my will.

Here it is. Type it, but don't type the [*J*] instructions: they mean that the next line has to be typed immediately, with no space: this is because of the margin requirements of the newsletter.

```
100 REM ** XBCAT / v. 2.0 ** by L. Dorais / Dec. 87
110 REM
120 CALL CLEAR :: CALL CHAR(92,"00FFFFFF",96,"000000FF") ::
  L$=RPT$("\",28) :: LL$=RPT$("\",28):: A=2
130 DIM T$(5):: ON ERROR 430
140 GOTO 150 :: CALL KEY :: A,AV,BL,C,D,DL,I,J,K,KY,L,N,S,ST,
  T,A$,B$,M$ !@!'-
150 T$(1)="DIS/FIX" :: T$(2)="DIS/VAR" :: T$(3)="INT/FIX" ::
  T$(4)="INT/VAR" :: T$(5)="PROGRAM"
160 DISPLAY AT(8,1):"CATALOG DISK? ";A: : : "*** You may precede
  it by:": : "[P] for PRINTER": : "or [A] for USED/AVAIL only"
170 ACCEPT AT(8,16)SIZE(-2)VALIDATE("123AP")BEEP:A$ :: IF
  LEN(A$)=1 THEN A=VAL(A$) :: D=0 :: M$="scroll" :: GOTO 200
180 IF SEG$(A$,1,1)="A" THEN AV=1 :: D=0 :: A=VAL(SEG$(A$,2,1))
  :: GOTO 200
190 IF SEG$(A$,1,1)="P" THEN D=2 :: A=VAL(SEG$(A$,2,1)) ::
  M$="print" :: OPEN #2:"PIO"
200 OPEN #1:"DSK"&STR$(A)&".",INPUT,RELATIVE,INTERNAL
210 INPUT #1:A$,I,J,K :: IF J=K THEN BL=1 :: B$="* BLANK *"
220 IF AV=0 AND BL=0 THEN PRINT : "Press any key to stop "&M$:L$
230 PRINT #D:"": " DSK";STR$(A);"."&A$:TAB(18);B$: " Used=";J-K;
  " Avail=";K :: IF AV OR BL THEN 340
240 PRINT :: PRINT #D:"filename size type P":[*J*]
  "-----"
250 FOR N=1 TO 127 :: INPUT #1:A$,I,J,K :: IF LEN(A$)=0 THEN 340
260 PRINT #D:A$:TAB(12);J:TAB(17);T$(ABS(I));
270 IF ABS(I)=5 THEN 290 ELSE B$=" "&STR$(K)
280 PRINT #D:SEG$(B$,LEN(B$)-2,3);
290 IF I>0 THEN PRINT #D:TAB(28);" " ELSE PRINT #D:TAB(28);"Y"
300 CALL KEY(0,KY,ST):: IF ST=0 THEN 330
310 PRINT L$:" [C]ontinue [S]top cat."
320 FOR DL=1 TO 30 :: NEXT DL :: GOSUB 400 :: IF KY=83 THEN 340
330 NEXT N
340 CLOSE #1 :: IF D=2 THEN CLOSE #2
350 PRINT :LL$:"[A]nother [D]elete [S]top"
360 GOSUB 400 :: IF KY=65 THEN CALL CLEAR :: AV,BL=0 :: B$=""
  :: GOTO 160
370 IF KY=68 THEN INPUT "DEL filename: ":A$ :: DELETE "DSK"[*J*]
  &STR$(A)&". "&A$ :: GOTO 350
380 IF KY=83 THEN END ELSE 360
390 REM ** sub call key **
400 CALL SOUND(100,2000,0)
410 CALL KEY(0,KY,ST):: IF ST=0 THEN 410 ELSE RETURN
420 REM ** if error **
430 CALL ERR(C,T,S,L):: IF C<>130 THEN 460
440 DISPLAY AT(21,1)BEEP:"I/O ERROR:":"no disk, or door open, or
```

```

trying to catalog a CC ramdisk."
450 RUN
460 IF C=14 THEN CALL SOUND(400,-3,0) :: PRINT "SYNTAX ERROR
      IN LINE";L :: STOP
470 ON ERROR 430 :: RETURN NEXT

```

Quite logically, CAT first asks you which disk you want to catalog; you can change the default in line 120 ("A=2"). To get a screen catalog, just enter the disk number. If you want a printout, you precede the disk number with a "P" (P1, P2, P3); if on the other hand you just want the available space, you precede it with an "A" (A1, A2, A3). The program then analyzes your answer and reacts accordingly (line 170-190). If you have made a mistake, such as trying to catalog a disk with the door open or with no disk in the drive, the ERROR routine in lines 430-470 will take care of it. More on that later.

While the catalog is printing to screen or printer (you cannot do both at the same time), you can stop it by pressing any key. But you must leave your finger on the key until you hear the sound and see the action line at the bottom, then release your finger. You then have the choice to [C]ontinue or [S]top the catalog. Pressing "S" will bring a new action line: you can catalog [A]nother disk, [D]elete a file (when asked, just enter the filename; Tex knows the disk number) or you can [S]top to exit gracefully. That's all there is to it.

NOTE: this is version 2 of XBCAT; for those who downloaded it from Texlink, list the old version on printer, then compare; main changes are the ERROR routine and the "BLANK" message; I also resequenced to put the two REMs at the beginning.

CALL ERROR:

In order to prevent the program from breaking under certain conditions, I have added that feature. The error checking routine starts on line 430, so you have to tell Tex at the beginning: "ON ERROR 430" (line 130). If Tex encounters an error, the program goes to line 430. The CALL ERR statement always needs four variables, even if you don't use them. C is the error code, T is the type (1 if an I/O error, -1 if another error in program), S is the severity (always 9, don't ask me why) and L is the line number.

The XB manual gives a list of the error codes in Appendix N. If the variable C is 130, that is, the error is an I/O one, line 440 will display a message less cryptic than an error code number. Line 450 tells Tex what to do next... A logical statement would have been "ON ERROR 430 :: RETURN 150" (Tex would have asked you the drive number again), but the program just refused to open the file in line 190, even if I had a disk in the drive, with the door closed; the new error was a "FILE ERROR", which I was unable to correct, so I decided not to give it another thought and simply re-RUN the program. Thanks to our Pre-Scan, it starts again with the blink of an eye.

If the error is a syntax one (C=14), the program warns you and then stops, because a syntax error could be fatal. Very useful for debugging a program! But if the error is none of the above (very unlikely), Tex finds itself in line 470: before exiting, you must re-declare the error line again (or a new one), then you RETURN where you want: a line number (RETURN 150 for ex.), NEXT statement like here (since we don't want to break the program) or simply to the statement where the error occurred (RETURN only). Never, never exit with a GOTO; poor Tex would eventually crash.

CATALOGUING A DISK:

If you are not familiar with the way Tex reads a disk and catalogs it, then try to follow me. In line 160, you have given it the number of the disk to catalog, kept in variable A. Line 200 opens the file, with no filename: this will open sector 0 as a file, INI'UT because you want to read only, RELATIVE and INTERNAL... because that is how the original program was. I never questioned those attributes, I only know that they work!

Line 210 reads the name of the disk into A\$; I is always 0, and is not needed further; J is the total number of sectors, and K is the number of free sectors. J-K will thus give us the number of used sectors; the diskette is blank IF J=K, since the avail. sectors equal the total sectors on the disk. Line 230 will

print that information where you want it: D is the Device file number, always #0 for the screen, here #2 for the printer since the disk to be read is file #1. If you wanted only the available space, or if the diskette is blank, then the program goes to line 340 to close the files and print the appropriate action line. In Tex's peculiar language, "IF AV" implicitly means IF AV<>0; here it is equivalent to IF AV=1, but think of how useful it could be if you just want to check if there is something in variable AV, no matter what! Another quickie from the XB guru.

Starting on line 250, we read the disk directory; don't worry, Tex knows where to find it. 127 is the maximum files you can have on a disk. For each directory entry, Tex reads the filename into A\$, the program type into I (see line 150 for an explanation), the number of sectors into J, and the length of the record into K. If the filename is nonexistent, i.e. the length of the filename is "0", then the program exits to line 340.

All that information is then printed; if the file is a program (I=5), Tex prints a space. Otherwise it prints the length (K) of the record, e.g. 80 for TIW files. If I is negative, the file is write protected, and Tex tells you so. It then checks to see if a key has been pressed; if yes, it prints the first action line; if not (ST=0), it goes on to NEXT N, next directory entry to read.

AND and/or OR:

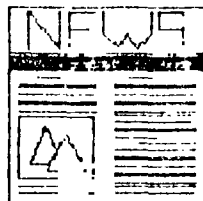
AV and BL are both checked together in lines 220 and 230, once with AND, once with OR. In line 220, if AV=0 AND BL=0, i.e. if I want a full catalog (not "avail. only") and the diskette is not blank, then Tex prints the message, and only if those two conditions are filled.

In line 230, we want to exit to line 340 on three different occurrences: 1) if I want a full catalog but the disk is blank, OR 2) if I want "avail. only" even with files on the diskette, OR 3) if I want "avail." and the disk is blank. In all cases, only one condition needs to be true (flag AV or BL is "1"); it is the same if both flags are "1", since at least one flag is not "0". Study this chart:

AV	BL	>	0&0	lor1	
0	0		Y	N	print msg, but don't exit to line 340
0	1		N	Y	I want cat., but disk is blank don't print
1	0		N	Y	disk not blank, but "av. only" msg but exit
1	1		N	Y	disk is blank, want "av. only" to line 340

```
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```

THE PRINTER'S APPRENTICE



a review
by
Lucie Dorais

DESKTOP PUBLISHING FOR THE TI-99/4A

It is a rare delight when you are given a new program to review, and it turns out to be one of the most well-crafted programs that I have seen in months. Thank you Bob (Boone of course) to let me try it and report about it here.

TPA was written in FORTH by Mike McCann, with the help of Cunthia McCann for the fonts. It comes on a DSSD very full floppy and, yes, I have used it to write this review. I spent two wonderful evenings reading the docs (essential) and trying all the options. The author even gives you scripts to guide you through your discovery. All went well, except that it did not print well... I then tried to configure my printer, an EPSON-compatible, as a GEMINI, and it worked fine thereafter.

HOW IT WORKS

You first prepare your pictures and texts with the help of the PICTURE EDITOR and the FORMATTER (not the same as TIW). After having tried them on the printer, you "print" them again to an external file to be used later by the SCHEDULER, the gluing portion of the program. A CHARACTER EDITOR is also included if you want to create or modify a font.

The PICTURE EDITOR is the one I used to do the title; it will read TI-ARTIST pictures, the ones with the "_P" suffix, and you can again modify them to a certain point with the EDITOR. You can, big thrill, clip part of the picture if you wish, and print it in single or double density. The title above are in fact clipped from three TI-ARTIST pictures, then printed side by side by the SCHEDULER; the left one is single density, the right one double.

For text, you use the FORMATTER. You have two options: use TIW files, as I do for this text, or use the Jotter function for small texts; it is a screen editor with some of TIW functions, and I used it for the "Desktop" line. Whether your text is from TIW or from the Jotter buffer, you can print it with one of the fonts provided on the TPA disk. The complementary TOOLBOX disk (see below) and a third TPA-COMPANION disk provide even more choices. The formatter can even be stopped if you want to change fonts, density, etc. Many variables allow you to change the micro-linefeed, the space between words and letters, the starting and ending columns; the text can be printed ragged or microjustified, fixed or wrapped. You can even ask the formatter to stop for proper hyphenation. Very sophisticated indeed! As with the pictures, you can create an external file to be used by the SCHEDULER.

Finally, the SCHEDULER allows you to build a scenario to print your page. Each picture, part of text, etc. becomes a separate module, and you can adjust precisely the microrows and microcolumns, print them, adjust them, etc. You can again print or prepare more external files, for example for a header that you would use often. The title above is one external file, built by printing three separate ones into a bigger one, then the other portions were added and tested one by one.

With TI-WRITER, this text is built into modules of the exact number of lines I think I will need for the space I have decided to use with the SCHEDULER. It is not so easy, but the result is great!

And all this takes a lot of time to adjust, print, build external files, and those are monstrous ones! one page of this review almost fills a DSSD disk, so users with single density systems would need to

print the page in two halves I presume. Since the program uses graphics to print, it takes a long time to do its job. The author suggests the use of a ramdisk to shorten this time, but I found that the SCHEDULER does not like to read its external files from my ramdisk (CorComp; Horizon might be different), so back to dear drive number 2 for the final touch. The FORMATTER and PICTURE EDITOR have no problem with my ramdisk.

With the SCHEDULER, you can of course mix pictures with text. You can even print a picture over text, since it can work with many files at the same time. You just have to be careful with the specifications of each module that you enter into the SCHEDULER. If you want to move a portion of the page, or insert/delete another one, no problem, the SCHEDULER can do it.

A word on the CHARACTER EDITOR: unlike other editors, this one is easy to use, since the author has thoughtfully put some TI-WRITER features into it (delete/insert, erase line, etc). Plus you can flip horizontally or vertically! You can of course use it to design any character, then attribute it to any ASCII number.

All fonts can be thin (which the author calls SDSH for single-strike) or thicker (OUSH, for over-under strike); the fonts on the disk are of both type. The CHARACTER EDITOR will allow you to go into OU style if you want to make a thin font thicker, character by character, but a short utility on the TOOLBOX disk will do it for you. Here are some of the fonts:

This is CURSIVE
and ARTDECO
simply TYPED
 Isn't that FINE?

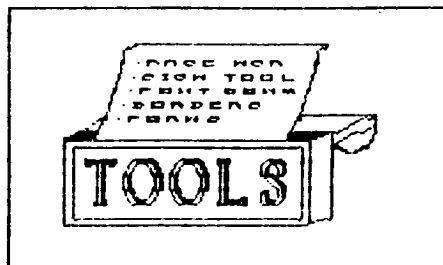
If you are curious, this text is printed with a font called "OUNLO" found on the TPA-COMPANION disk, which contains only fonts. The text is printed in double density, and the SCHEDULER prints both columns at the same time; it has been formatted as wrapped and microjustified. The "Desktop" line and the sub-titles both use fonts found on the main disk. TREASURE and OUBAUHAUS.

This covers all the important functions of the TPA main program. Except for the font that comes from another disk, all was done using this one disk only.

The price? Only \$35 CDN, from Computer Downloads Unlimited (alias Bob Boone). If you think this program is great, wait until you start to use the

TOOLBOX

This second floppy greatly expands TPA. If the main program allows you to emulate PAGE MAKER (Apple/IBM) on the printed page, with the TOOLBOX you are much closer to the real thing, which retails for a mere \$895...



The PAGE MANAGER uses screen graphics (boxes) to organize your page; there is even a column mode to simplify your planning. Fully compatible with the SCHEDULER.

The SIGN TOOL works like the FORMATTER, but it also allows you to change the size of the fonts. You can widen, elongate, or simply blow each character up to 8 times.

The FONT CONVERSION works between TPA and TI-ARTIST/CSGD "_F" fonts. And you can scan each font very quickly, which the other programs cannot do! You can also convert TI-ARTIST instances and pictures into Ext. files, with clipping of course. OK, the PICTURE EDITOR can do that (pics only), but here you can change the size of the detail, up to 8 times!

With the BORDER BUILDER, and through an external file for the SCHEDULER, you can frame your page; borders come in 20 styles.

Finally, the FORMS TOOL will help you build forms with squares to tick.

The price? only \$30. With the COMPANION disk at \$15, this means \$80 for the whole package. A lot? Less than a tenth of Page Maker, for the same result, if not the same ease of use.

TI BASIC continued from December
by Steven Shaw

If the standard field length of 64 bytes is too short, you may specify one of two alternative field lengths, 128 or 192. You do this by placing these numbers after the word **FIXED** (with a space between).

When you have finished saving data to the tape, remember to close the file with eg **CLOSE #1**

This will generate the message "PRESS CASSETTE STOP & PRESS ENTER", so as before ensure that there is no screen display to be disrupted.

When the computer is saving data, it does so one field at a time, and it is essential the computer has control of the cassette motor. If your remote control does not function, fit the polarity reverser (provided with the TI Tape Cable) between the remote socket on your tape recorder (the small one: 2.5mm) and the small jack plug on the lead from the computer. If you have purchased a third party lead and require the polarity reversing, you should ask your supplier to do so. It is possible to swop the wires yourself, but with some systems there may be problems as the screening may be broken.

To load your saved data, you must reopen the file, this time specified as an **INPUT** file. If you used long field lengths when saving the data, you **MUST** specify the same length in the **OPEN** statement to load the data. Similarly if a file is saved in **INTERNAL** format, you **MUST** read it in the same format.

If you have placed several values in one field, you must read them in the same way- if you have used:

```
PRINT #1:A;B;C;D
```

then you **MUST** read four **NUMERIC** variables, although the names may differ:

```
INPUT #1:Z;X;R;T
```

If a numeric variable has been saved, you must read a numeric variable. A field containing string data must be input to a string variable.

Your tape files contain the values of the variables printed to them (or direct numbers or strings). The variable name is not saved, and the variable is not affected by saving its value.

Have a look at the file management program in Vince Apps book of Programs for the 99/4A for an example of using tape files.

Remember to **CLOSE** the file when you have finished with it.

Tape files can occupy large amounts of tape, and if you are saving a large number of items, you will need at least a C15 or C20 tape.

If you graduate on to **DISK BASED** filing, the 99/4A offers many more options, to give you greater control and access. This includes variable length files for better use of disk space, update mode which allows you to read and write to a single open file, and relative files which allow you to read or write to a specific record within the file. The disk system also allows the use of named files, and of course greater speed.

You may use the **MINI MEMORY MODULE** as a file storage device. It is treated in a similar way to disk files except that only one file can be saved to the module, called "MINIMEM". For minimem or disk, if you use **FIXED** with no number, the file is padded to 80 bytes length.

For Minimem operation, your opening line may be as short as:

```
OPEN #1:"MINIMEM"
```

The file is assumed by the computer to be **FIXED 80,SEQUENTIAL,DISPLAY** (care!), **UPDATE**.

Any of these assumptions (or defaults) can be altered by adding the definition you want to the **OPEN** statement. Minimem will retain its data files provided you switch the console off before inserting and removing the module and do not use it for anything else. Minimem also permits the memory expansion to be used for data storage (see Mini Memory Manual) but this data is lost when you disconnect the power.

You may find that you need to slightly alter the volume level on your tape

recorder to load data files correctly. It IS possible to load corrupted data if the volume is slightly incorrect, and this may result in your program 'crashing' with an error message such as 'BAD VALUE' which is not immediately caused by an incorrect volume setting.

Some TI Modules save data to tape in 'program format', using the normal SAVE CS1 and OLD CS1 routines. The advantage of this is that the data does not occupy so much tape, takes less time to load, and it is possible to use the CHECK option to verify the data is saved correctly.

Using tape data files using OPEN & PRINT, the only way to verify your data is to read it back yourself, with an INPUT file.

At the time this text was written, it was possible for 99/4a owners to save and read their own data in this format if the Personal Record Keeping or Statistics modules were in the module slot.

These two modules add several new subprograms when TI BASIC is selected, but as this is not advertised may be amended in future. Their use is fairly technical, as memory has to be reserved by the programmer. For details, try writing to TI or the UK User Group.

NOTE: EOF is not available for tape files.

Typical routines to SAVE and LOAD high scores for a game:

TO SAVE a high score, which is in a variable called HISCORE

```
100 REM DO NOT OVERRECORD YOUR PROGRAM
110 REM ONLY RECORD DATA ON BLANK TAPE
120 OPEN #1:"CS1",INTERNAL,OUTPUT,FIXED
130 PRINT #1:HISCORE
140 CLOSE #1
```

```
TO LOAD this data back into the program:
200 REM TAPE MUST BE IN SAME POSITION
210 REM AS AT START OF ABOVE SAVE ROUTINE
220 OPEN #1:"CS1",INTERNAL,INPUT,FIXED
230 INPUT #1:HISCORE
240 CLOSE #1
```

CHAPTER SIX

ADVANCED PROGRAMMING

In this section we will consider briefly how the computer works, with a view to making better use of its facilities.

The TI99/4A contains a 16 bit microprocessor, the 9900. This was one of the first 16 bit processors to be made. However, apart from a very small section of memory, the processor communicates with the rest of the console using an 8 bit data line. As a user you do not therefore see the high speeds theoretically possible with a 16 bit micro.

However, the 16 bits are used to make speech synthesis possible, and can also be used by an experienced programmer to speed up some machine code programs.

Most computers place user programs in RAM (random access memory) which is addressed (eg spoken to) by the CPU (central processing unit). This RAM is therefore CPU RAM: it is used by the CPU.

The 99/4A however only has a tiny amount of CPU RAM (16 bit addressed) and when only the console is used, the users program does not reside in CPU RAM.

To provide sprite action, TI have provided a second processor, the VDP (visual display processor) and this has its own RAM, referred to as VDP RAM. This 16k of memory cannot be directly addressed by the CPU.

The VDP RAM is used for screen display, variables, and your program...which the main processor cannot directly address.

Your program is passed to the CPU two bytes at a time, which does not form a particularly fast means of communication, and may be responsible for some of the slow speed of the 4A.

Because there is no RAM addressable by the CPU, you cannot enter or run programs in machine code, unless you add CPU ram in the form of either the 32k expansion card or the 4k mini memory module.

The CALL PEEK and CALL LOAD of Extended Basic operate only on CPU ram, and if you only have the console, you will not be able to find your program in memory.

Only the mini memory module allows you to PEEK and POKE the VDP RAM, using CALL PEEKV and CALL POKEV.

If you have the mini memory or the 32k ram and extended basic, you may look at how the computer stores your programs.

With Extended Basic and the 32k ram, you may look for your program from memory location -25 to -24576.

The first line entered of your program will 'end' at -25, then as each new line is entered (or edited), regardless of the line number, it is placed on top. If a line is edited, the old line is removed, all subsequent lines change position, and the new line goes to the top.

With Mini Memory, provided you do not have a disk controller attached, your program starts at VDP address 16383 and works its way towards 1536 (or the bottom of the stack if earlier).

With a disk controller attached, the program ends at the bottom of the stack and is pushed towards 16383, which makes it harder to look at the program (the locations keep changing).

With this information, you may not only look at your program and see how the program is stored, you may alter the program lines. Using CALL LOAD (or CALL POKEV) it is possible for one program to write over itself and create a completely new program.

SAMPLES:

```
Type in:
100 REM TEX
110 A=B+2
120 C$=D$&"E"
```

Now if you have extended basic and the 32k ram, add:

```
200 FOR I=-25 TO -64 STEP -1
210 CALL PEEK(I,A)
220 PRINT I;A;CHR$(A)
230 NEXT I
```

For mini memory owners:

```
200 FOR I=16383 TO 16343 STEP -1
210 CALL PEEKV(I,A)
220 PRINT I;A;CHR$(A)
230 NEXT I
```

Do not edit any of these lines! If you make a mistake start again!

These are the results with Extended Basic

MEM:VALUE:	MEANING:
-25 0	END OF LINE
-26 88	ASCII code for X
-27 69	ASCII code for E
-28 84	ASCII code for T
-29 32	ASCII code for SPACE
-30 154	CONTROL code for REM
-31 6	LENGTH OF LINE
-32 0	END OF LINE
-33 50	ASCII for 2
-34 1	"1 digit follows"
-35 200	"Number follows"
-36 193	CONTROL CODE for +
-37 66	ASCII for B
-38 190	CONTROL CODE for =

HOTLINE NUMBERS

The executive has expressed a desire to assist all members should you have some problems or questions, want to do some library swapping or borrow a book. This will be the place to look. Listed here are the members of the executive, committee heads, and others in the group willing to help in their specialized areas. Of course, if you wish to be placed on the list, just give me a call. I know there is a lot of expertise within our Group, so I hope to add to this list. Please respect normal hours unless you specifically know that someone doesn't mind a call at 3am, or use the BBS to leave a message at 738-0617, 24 hours a day, 7 days a week.

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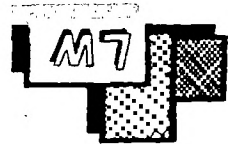
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