

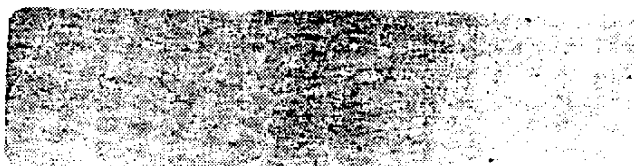
99'er Online

NOVEMBER 1985

**p.o. box 11983
Edmonton, Alberta
Canada T5J 3L1**



to:



99'er ON LINE is the news letter of the Edmonton 99'er Computer User's Society published ten times a year. Unless otherwise stated, all material contained in this news letter may be published in other news letters provided that source and author are identified. We welcome correspondence from all TI User Groups and we will credit authors quoted in 99'er ON LINE.

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DISCLAIMER: All information published in this news letter is, for the most part, the fruits of the labors of amateurs; therefore, we cannot guarantee that the information presented is always correct.

REGULAR MEETINGS: Regular meetings of the Edmonton User's Group are held on the second Tuesday of each month on the 8th floor of the General Services building of the University of Alberta from 7:00 till 10:00 PM and are open to all members in good standing. Non-members may attend their first meeting free of charge. The Executive Committee meets monthly. Members may attend these meetings as observers or to address a particular issue. Arrange with one of the officers listed above if you wish to attend.

ADVERTISING: Commercial advertising space is available in this news letter at the following rates: FULL PAGE--\$20.00, HALF PAGE--\$15.00, 1/4 PAGE--\$10.00. Discuss your commercial needs with JIM MULLIGAN at 467-6021, at the next meeting or write to the P/O Box above. Members may advertise their personal computer related items for free but are asked to limit their ads to about 50 words. Mail your ads to the EDITOR'S ADDRESS or hand it to him at the general meeting; newsletter deadline 15th of the month.

MEMBERSHIP FEES: FAMILY---12 MONTHS, \$20.00, 6 MONTHS, \$15.00. STUDENTS---12MONTHS,\$15.00, 6 MONTHS, \$10.00.

USER GROUP NEWS

THIS NEWS LETTER... reminds you that our third regular meeting will be the second Tuesday of November (the 12th) at 7:30 PM in room 849 of the U of A's General Services building on 116 St north of the Jubilee auditorium. Doors open at 7:00

EXECUTIVE ASSISTANTS... helping to keep the group running are non-elected volunteers who are in many ways the soul of this User's Group:

Newsletter Editor - Bob Pass
 Advertizing & Editor's Assistant - Jim Mulligan
 Newsletter Library-Ron Hohmann
 Disk Library - Ken Godbeer
 Book Library - Gord Bradlee
 Bulletin Board Sysop - Tom Hall

If you see a job that needs doing that is not covered by the above departments, how about volunteering your services at the next meeting; you will find that it is worth the effort.

BULLETIN BOARD... a BBS service is operated Tom Hall. To get on line, dial (403) 424-3258. In addition to news and the usual BBS offerings, there are programs available for downloading to your TI machine.

FLOPPIES... if you wish to order a fresh supply of disks, please place your cash (or cheque) orders with Bob Pass at the Next meeting. Price is now \$15.00 per box of ten. Also available are handy plastic storage boxes that hold ten disks at \$3.50 each. Delivery will be at the following meeting, unless you care to drive to St Albert. Because of cash flow problems, there are usually no extras available so remember to place your order at the next meeting.

CONTESTS... Jim Mulligan has won the contest to develop a Basic disk lister/labeler/index. See article and program listing in this issue.

As there have been no entries for the contest to develop a letterhead program, this contest has been discontinued till further notice.

WANTED... any clippings from newspapers, magazines, or comic strips that you think may be of interest to other members of this User Group. Please forward to the editor, Bob Pass, or to Jim Mulligan.

ALSO WANTED... your advertising. Don't forget that members can advertise their computer related merchandise or requests in this news letter for free! Give your ad to Bob Pass or Jim Mulligan by phone, mail, or at the next meeting. See the fine print on the newsletter cover sheet for further info.

SOCIETY MEMBER LIST

Included with this newsletter, as a service to **MEMBERS ONLY**, is an insert list of current members. Please respect the privacy of others and restrict your hour, frequency, and duration of calls. Also, please keep this list within the membership. Thankyou.

No, you are not experiencing deja vu! The above blurb did appear in last month's newsletter. Unfortunately, the membership list did not due to a technical malfunction; a blown memory chip in somebody's "bio-ram". This month it is here. Nuff said.

OCTOBER MEETING

by: Bob Pass

Due to a flu bug, I was unable to attend the October meeting so this report will be rather brief! Following a short group business report from the executive, the meeting was turned over to Michal Jaegermann who presented a demonstration of assembly language programming. Apparently everyone was so engrossed that time was forgotten and little else was done that evening except some demo's of library software.

Jim Mulligan donated his lighted hearted program on the ancient art of punning to the library; this is a "professional" program which Jim had been retailing up to now. Look for "DAFFY-PUN" in the library.

Thanks Michal and Jim for your contributions to the evening.

NEXT MEETING

As I was not at the last meeting, I haven't the foggiest idea about what is going to happen! Why not come out any way and be surprised? Might be a good idea to bring along an initialized disk or tape.

COMPUTER SHOW

by: Bob Pass

The third annual Edmonton Computer and Office Automation Show will be held at the Edmonton Convention Center November 5th 10:00 AM to 8:00 PM and November 6th from 10:00 AM to 6:00 PM.

For all of our **PAID-UP** members, you will find enclosed with this newsletter a coupon (courtesy of the 'edmonton telephones' DATA group) which is worth \$2.00 off the admission price. The rest of you will have to cough up five bucks!

TI-TRIVIA

by: Jim Mulligan and Bob Pass

Here once again is your opportunity to test your knowledge of the TI-99/4A and its programming languages. Answers can be found on another page of this newsletter.

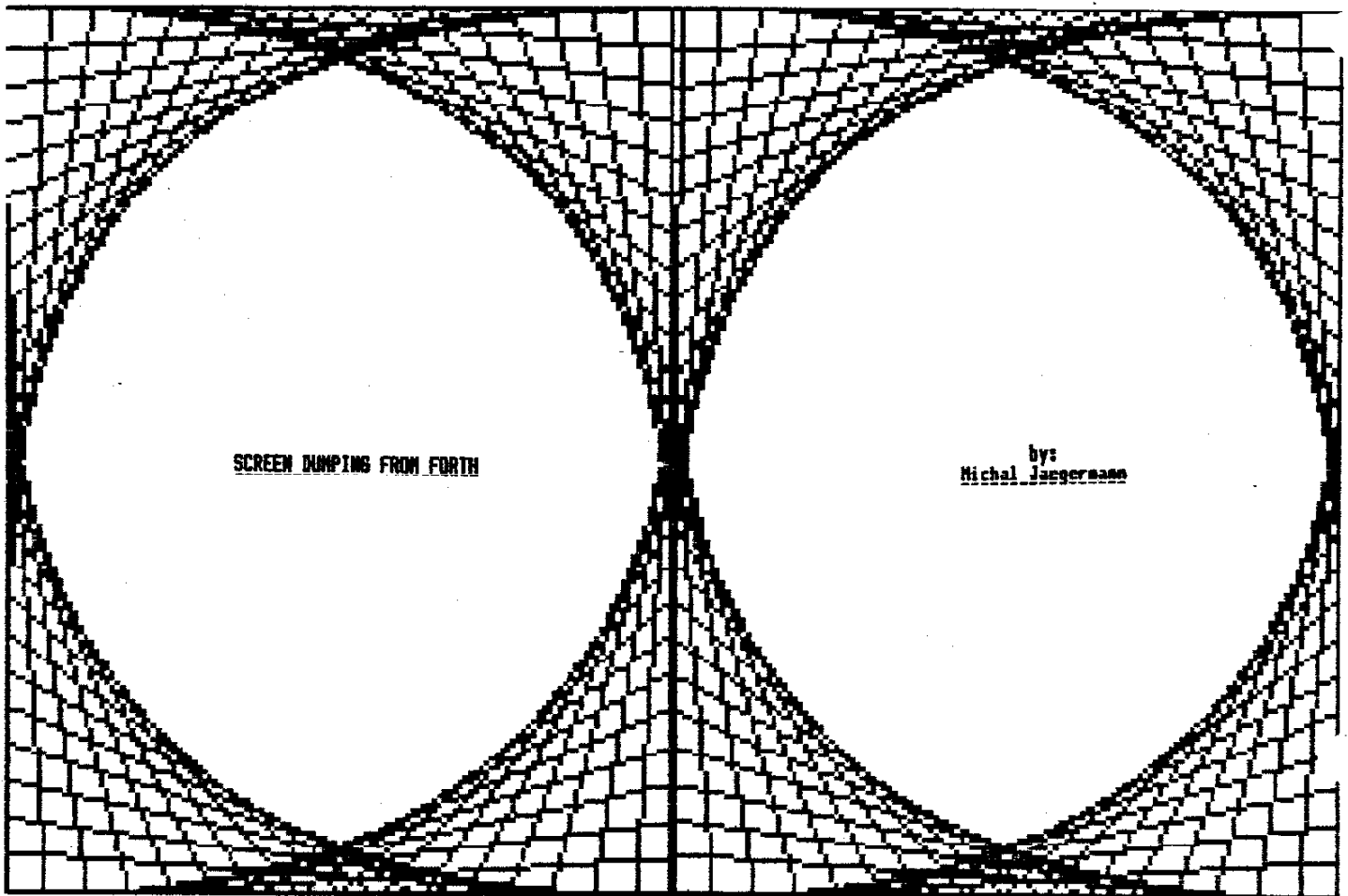
1. Who authored the version of BASIC used in the TI-99/4A?

2. Several computers have "shorthand" entries to ease programming; for example the word PRINT can be invoked with a single keystroke. Is this possible on the TI?

3. What effect will the TAB have in the following PRINT statement:

```
PRINT TAB(N-INT(LEN(H$)/2));H$
```

where N a number and H\$ is a character string to be printed?



You have undoubtedly noticed that TI Forth has quite a nice set of graphics routines. The only question is: how to preserve the latest gem of your creativity for the future generations; or, maybe more realistically, how to send it in a letter to beloved Aunt Jane? The Forth calvary is coming once again to the rescue.

You will find here a screen dump which will create a hardcopy of a picture created in any of the Forth high-resolution modes. Though not as fast as an assembler version, it is a rather decent utility. Actually I will present here the toughest case - double density graphics printed across the full size of a standard typewriter sheet. I will try to explain - more or less - how it works, so you should be able, with some extra work involved, to create other dumps if a need arises.

As you remember, the TI-99/4A stores character patterns as "rows" of pixels coded with hexadecimal numbers. The familiar character description strings from BASIC's CALL CHAR have exactly that form. The same principle is used for high-resolution graphics, but for one screen there are, in essence, THREE character pattern tables and not just one. So characters with the same number may have different patterns depending on whether they are positioned in an upper, middle or lower part of a display. So you just have to look in different places. We just have to scan through a row of the display, generate proper printer codes and store them in an output buffer which is called here OBUF. It is 256 bytes long since our display is 256 pixels wide.

A pointer to the current position in OBUF is called OPNTR. No problem? Real problem! It comes from the fact that graphics codes for a printer are sent by columns and characters are stored by rows. Therefore there is a need for a Forth word which will convert one sort of data into another. This is done by the word H>V (horizontal to vertical). It simply checks if the high bit in a given byte is set in which case it OR's the given pattern into proper position in OBUF. We are using pattern C0, supplied by TRBITS (transpose bits). Why? Since we are printing a double size picture. C0 (hex) means 2 bits set. Remember BASIC. To have only one bit set use pattern 80. By the way - H>V is a place to play all kinds of games with your character codes. For example XOR your byte, before doing anything else, with OOFF and your dump will be white on a black background.

After you traversed the whole line with HFLINE a variable CHR# contains the number of the last non-blank printer code. There is no need to exercise a non-printing printhead!

HFLINE (half-line); because we are printing a double size picture, it means that every pixel will be changed vertically into two dots. Which brings up a question - how many dots horizontally? My printer - Gemini 10X - in double density graphics mode is printing 960 = 32 X 30 eight dot columns. A display is 32 eight pixel characters wide. This means that every 8 pixel columns has to generate 30 graphics characters. Not exactly

divisible. My solution - send every 4th character from OBUF three times to the printer, all remaining - four times. This is handled by the expression:

```
"4 I 3 AND 0= - 0 DO DUP EMIT8 LOOP DROP " in GRPH.
```

If you were printing a single size picture you would just send every OBUF character twice. This is a question of proper proportions on a printout.

So at last we came to printing. First two-bits on printer. This screen dump uses an ALTOUT alternative output as defined on screen 72 of the standard disk - with slight modifications. A minor one is that my printer file is called >PIO (to-pio), just because I have a printer on a parallel port. Name yours as you wish, say >PRINTER. This is of no importance, as long as it is used consistently and as long as SWCH will set up a proper name for the output channel via F-D*. As you may guess, mine reads F-D* PIO*. You have to put in your printer name. The other modification is more important. The original SWCH insists on putting PAB for output in location 470. This is somewhere inside the Bitmap Color Table. It means that every time you execute SWCH your screen dump will work like it should but some strange blobs will appear on your display. To remove them you would have to restore the original values in the Color Table. But there is a simple way out which may also be used in many different situations. Modify corresponding lines on screen 72 of the system disk to read as follows:

```
74C 0 OVER 1- FILE >PIO
: SWCH >PIO SET-PAB F-D* PIO* ( or your printer name)
OPN PAB-ADDR @ 3 OVER VSBW 1 OVER 5 + VSBW ALTOUT ! ;
```

Now .PICT, before setting up PAB, changes 3 values hidden in >PIO effectively relocating PAB where it should be. After the job is finished it restores original values for a standard use. One may ask why 74C instead of an original 4D0. This has to do with my private allocation conventions and is here of no importance whatsoever. I will explain it some other time. Use 4D0 if you prefer it that way, but change values in PABC accordingly.

You have to send to the printer all kinds of special codes which are not very easy to put into the string between ." and ". Here comes a "kludge of the month". Namely the word FIXST(ring). When executed properly during a compilation it changes the compiled string into something else. Look for examples of usage in LMSET, GCODE and .PICT. You have to know in which form strings are compiled before you can use it.

LMSET is setting a left margin for the printout. Just type 5 LMSET and your left margin is 5. Since many printers do not have a left margin reset, this is done with a tab. It implies that other tab settings - if you had ones - will be changed. (The printer was reset anyway.) Trying to set the margin at 0 has no effect whatsoever. This was done for the benefit of Gemini printers which run amok whenever you are attempting to execute a tab of 0. Changing the left margin is valuable if you have a wide printer, you are printing a single size picture, or you are printing only a part of a screen. We will return to that later. GCODE is informing the printer that what follows is a graphic in double density (ESC L). Check your printer manual if you have a different printer. GRPH is multiplying the number of non-blank characters on a line by 30 and sends an appropriate number of codes to the printer. This number will be different if you use a different size or density.

Now .PICT needs to know where to finish and where to start scanning a character pattern table. SCREEN/DUMP

is kind enough to supply appropriate numbers for each of the three high resolution modes. But you may do that yourself and printout only some rows - not the whole screen. And you do not have to print the full width across. HFLINE is using constants LASTCOL and 1STCOL to get the job done. Values are set on a load to 32 (20 hex) and 0, but you may change it. For example: 8 ' 1STCOL ! and 18 ' LASTCOL !. Try it - but do not use values bigger than 32 and smaller than 0. Of course you may do it, but I am not sure if you would like the results!

To conclude - if you would like to play with this I have a number exercises for you.

- Create a word which will dump only chosen lines from a display. It should clip your request to the actual screen for a given mode (easy).

- Create a word which will dump only chosen columns. Should check as above (a little bit harder - remember that ' is IMMEDIATE).

- Change this dump into single density (easy).

- Change this dump into single size (harder - requires some playing with HFLINE and TransposeBITS).

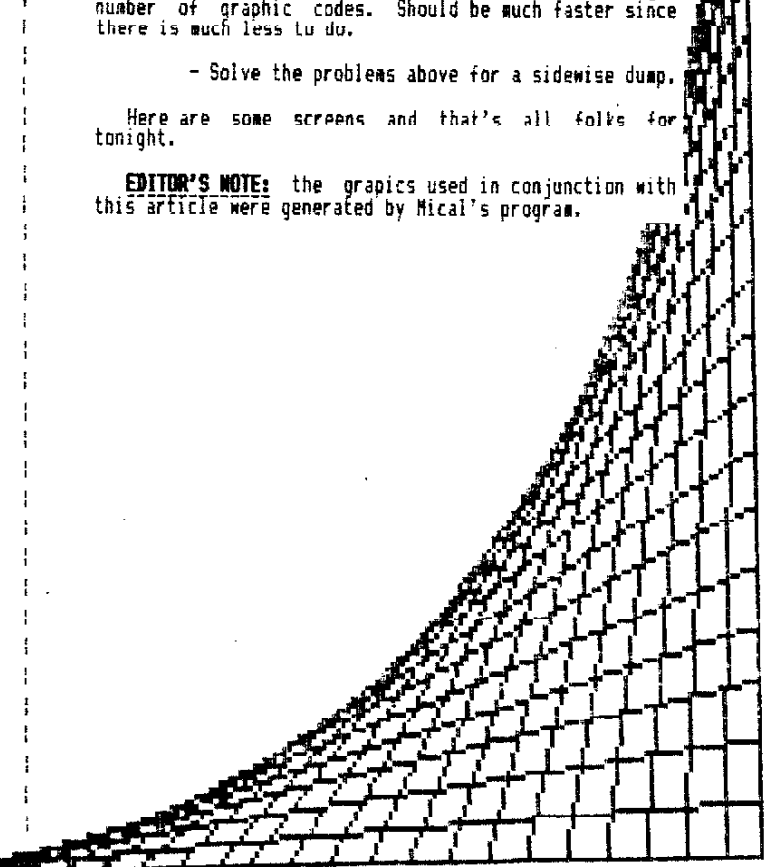
- Both of the above.

- Create a screen dump which prints sideways. Much easier than it seems. You do not need any kind of bit transposition since they are stored in the proper orientation. Simply scan 8 pixel columns from top to bottom starting from the last one. After printer initialization send every byte a proper number of times to the printer. Skip all trailing blanks. Align the picture properly on a sheet. No problems with too big a number of graphic codes. Should be much faster since there is much less to do.

- Solve the problems above for a sidewise dump.

Here are some screens and that's all folks for tonight.

EDITOR'S NOTE: the graphics used in conjunction with this article were generated by Mical's program.



```

( BIT-MAP SCREEN DUMP 1st scn * Michal Jaegermann 1SEPT85 )
BASE->R HEX -PRINT -GRAPH -GRAPH2 -TEXT
20 CONSTANT LASTCOL 0 CONSTANT 1STCOL
0 VARIABLE OBUF FE ALLOT 0 VARIABLE OPNTR 0 VARIABLE BLFLG
0 VARIABLE CHR# 0 VARIABLE LMRG
2000 VARIABLE SCRNS 3800 , 2000 , 3000 , 2400 , 3800 ,
1B03 VARIABLE PABV 0 , 1B04 , 74B VARIABLE PABC 0 , 74C ,

: FIXST ( what where -- ) HERE - MINUS C! ;
: LMSET ( n -- ) SWCH ." _@" [ 1B 3 FIXST ] DUP IF ." _D"
[ 1B 3 FIXST ] DUP EMIT 0 EMIT ENDIF CR UNSWCH LMRG ! ;

: H>V ( ptrn, bt -- ptrn ) 8 SLA BEGIN DUP WHILE DUP 0<
IF OVER OPNTR @ C@ OR OPNTR @ C! 1 BLFLG ! ENDIF
1 OPNTR +! 1 SLA
REPEAT DROP ; -->
( BIT-MAP SCREEN DUMP 2nd scn * Michal Jaegermann 1SEPT85 )
: TRBITS ( vaddr, source -- f ) 0 BLFLG ! CO
4 0 DO >R >R DUP OPNTR ! R> R> OVER I + VSBR H>V
2 SRA LOOP DROP DROP DROP BLFLG @ ;

: HFLINE ( vaddr -- vaddr ) 0 CHR# ! OBUF 100 ERASE
LASTCOL 1STCOL - 0 DO OBUF I 3 SLA + OVER I 1STCOL +
3 SLA + TRBITS IF I 1+ CHR# ! ENDIF LOOP ;

: GCODE ( cnt - ) LMRG @ IF ." _" [ 9 1 FIXST ] ENDIF
." _L" [ 1B 3 FIXST ] DUP FF AND EMITS 8 SRL EMITS ;
: GRPH ( cnt -- ) DUP 1E * GCODE 8 * OBUF + OBUF DU I C@
4 I 3 AND 0= - 0 DO DUP EMITS LOOP DROP ;
: .GLINE ( vaddr -- ) 2 0 DO I 2 SLA + HFLINE CHR# @
-DUP IF GRPH ENDIF CR LOOP DROP ; R->BASE -->
( BIT-MAP SCREEN DUMP 3rd scn * Michal Jaegermann 1SEPT85 )
BASE->R HEX
: .PICT ( va va -- ) PABV ? >PIO 3 MOVE SWCH CR
." _A_" [ 1B 3 FIXST 8 1 FIXST ] \ set height of LF
DO I .GLINE ?TERMINAL IF LEAVE ENDIF 100 +LOOP
CR UNSWCH PABC ? >PIO 3 MOVE ; \ cleanup

: SCREEN/DUMP VDFMDE @ 4 - DUP 0< IF DROP CR ." Error --
wrong mode" ELSE 4 * SCRNS + DUP 2+ @ SWAP @ .PICT ENDIF ;
R->BASE
;S \ Screen dump test. Comment out this whole line to execute
GRAPHICS2 DRAW BASE->R HEX FO DCOLOR !
: TESTPICTURE 0 BF FF BF LINE
CO 0 DO 0 I I 4 * 3 / BF LINE 8 +LOOP ;
R->BASE
TESTPICTURE SCREEN/DUMP TEXT

```

CONTEST WINNER

by: Bob Pass

Jim Mulligan is the winner of our contest to develop a program to create compact disk labels. This was a challenge I issued earlier this year to improve upon an extended basic version that I had issued. Well Jim has certainly made improvements!

First of all, the program meets the two contest criteria: it is written in console basic so most of you can now benefit from this utility and the index is printed in alphabetical order in VERTICAL columns rather than horizontally as in the original version thus making it easier to locate files. Secondly, the program is well written and is as, far as I can see, bug free. Thirdly, the program is well documented. And finally, Jim exceeded the requirements by including (at no extra charge) a program to index all of your disks and print them out neatly formatted.

Jim will be presented with his prize at the next meeting and his program will be added to our library. For those of you who can't wait, here's Jim's own commentary followed by the program listing. Congratulations, Jim Mulligan!

BASIC DISK

by: JIM MULLIGAN

This program will produce a disk label and a disk directory in TI BASIC both of which are arranged alphabetically, vertically. The present listing is set up to produce a label and then skip adequate spaces and produce the next label. If you want to use this to produce a listing card to include with your disk jacket rather than an actual label, you can delete the following lines which are used to control the number of items so that the listing will fit onto the label. Delete lines 460, 480, 510, 520, 530, 550, 560, 570, and 580. Lines 150, 160, and 170 are used to replace the Extended Basic image statements, so if you are not limited to the label size you could extend these and produce a label with more complete type descriptions. Change line 170 to:

```
170 DEF N$=SEB$(J,3,5-LEN(D$))
```

and your 'Type' description can be 2 characters longer. You would have to then space out lines 380 and 390 to match your new size label, and extend E\$ in line 180 by 6. The directory part of the program will produce an alphabetical listing of as many disks as you have. The program has been streamlined as much as possible to speed up the lengthy TI BASIC sorts and dumps to disk. You can print pages with up to 160 program listings arranged alphabetically in two columns, any more on a page would cause problems if you use the DELETE A DISK segment as two pages are then merged together to maintain a full page directory. When you first run the program you will have to set up your directory information file. Do this by typing "RUN 3030" and then FCTN 4 when you return to the menu. This will only have to be done once to establish a file. When you actually use the directory portion of the program you will have to initialize a file for your directory storage. You can name several directory files ie: BASIC, LOGO, XBASIC or whatever and then maintain separate directories for each type of program. Just reinitialize to that directory name you want to work with and it will then automatically load the first page

of that directory, assuming that there is a first page, and you then proceed to work that directory.

EXPLANATION OF PROGRAM

100 - 280 INITIALIZATION of both programs and set up date array A\$(1).

290 - 360 LABEL MAIN MENU and go to disk read routine.

370 - 590 PRINT A DISK LABEL. Lines 400 - 450 allow for odd column lengths caused when dividing by 3 to be longest from left to right. Line 490 divides the list into 3 columns and prints it. The variable M is used for line spacing of labels and between labels. Lines 500 to 580 control the number of items to be printed before spacing for the next label.

600 - 650 Test for another label and return.

660 - 830 INITIALIZATION, setup for directory routine and directory main menu.

840 - 1140 READ MENU from disk and form A\$(J) properly imaged (Lines 150, 160, 170) and ready to print.

1150 - 1660 SORT ROUTINE to alphabetize the list. Lines 1380 - 1510 contain the actual DELETE A DISK routine accessed from Line 2980.

1670 - 1820 PRINT ROUTINE This prints the directory. Line 1710 can be changed to suit your printer.

1830 - 2050 SAVE A PAGE This routine saves a complete page at a time and is used by the DELETE A DISK routine and the DUMP A PAGE routine.

2060 - 2140 RESEQUENCE A PAGE This routine resequences the items left after a full page has been saved. Because the SAVE A PAGE routine only saves a complete page, the remaining items must be resequenced to start the next page.

2150 - 2480 INPUT A PAGE This routine recalls a whole page at a time, and is used by the initial load routine as well as by the DELETE A PAGE and DUMP A PAGE routines.

2490 - 2930 DUMP A PAGE This routine does the actual control of page length and dumping of input to the storage page. Then it is recalled, sorted and stored as a new page. Because only one page is actually in the machine at a time all input is sorted against this first page, dumped and the next page recalled, and then it is sorted against this new page and so on until all existing pages have been compared and modified where necessary. While this technique is somewhat slow and cumbersome, it does give TI BASIC a virtual storage space for an unlimited number of disks or programs (You would have to change the BASIC-DISK for added storage when it is full.)

2940 - 2980 DELETE A DISK This routine determines the disk to be deleted and then goes to Line 1300.

2990 - 3070 INITIALIZATION This section keeps track of your file name and the current number of complete directory pages.

1260 AA=AA-Z	1600 D=D+A	1910 NEXT E	2190
1270 IF AA>0 THEN 1210	1610 IF D>K THEN 2150 ELSE 1600	1920 CLOSE #3	2240 CLOSE #2
1280 NEXT E	1620 M=77	1930 IF (M<>77)*(Q=0) THEN 720	2250 IF AC=A THEN 1700
1290 GOTO 1170	1630 Y=A	1940 IF (M=77)*(Q=A)*(D=N) THEN 690	2260 IF D>A THEN 2290
1300 L=0	1640 AB=J	1950 IF (M=77)*(Q=A)*(K>D) THEN 2050	2270 AD=J
1310 FOR E=A TO J	1650 J=C	1960 IF (Q=A)*(N<>0) THEN 3030	2280 IF Q=68 THEN 1300 ELSE 720
1320 IF A\$(E)<>" THEN 1350	1660 GOTO 1830	1970 IF Y=0 THEN 2020	2290 IF (M=0)*(L=0)*(D=0)*(A=E=0) THEN 2460
1330 P=P-A	1670 IF R>A THEN 2510	1980 L=78	2300 IF D<N THEN 2380
1340 GOTO 1430	1680 IF R=A THEN 2490 ELSE 720	1990 M=77	2310 B=A
1350 IF (Q=68)*(SEG\$(A\$(E),LEN(A\$(E))-LEN(U\$)+A,LEN(U\$)-U\$) THEN 1390	1690 INPUT "Comment or Title":V\$	2000 D=D+A	2320 IF J>C THEN 2380
1360 IF A\$(E+A)=" THEN 1520	1700 AC=0	2010 IF D<N THEN 2150 ELSE 720	2330 M=77
1370 IF A\$(E)<>A\$(E+A) THEN 1510	1710 OPEN #4:"RS232"	2020 M=0	2340 N=N-A
1380 IF E<J THEN 1430	1720 PRINT #4:CHR\$(18):TAB(27);"** BASIC-DISK DIRECTORY";TAB(40-LEN(V\$)/2);V\$:TAB(40-LEN(M\$)/2);M\$: : :	2030 L=77	2350 D=D-A
1390 A\$(C)="	1730 FOR E=A TO J	2040 D=D+2	2360 DELETE "DSK1."&P\$&STR\$(D)
1400 J=J-A	1740 PRINT #4:TAB(5);A\$(E);TAB(45);A\$(E+INT(J/2+.5))	2050 IF AB<C THEN 2110	2370 GOTO 1300
1410 E=E-A	1750 IF E>J/2 THEN 1770	2060 FOR E=A TO AB-C	2380 IF Y=A THEN 2420
1420 GOTO 1520	1760 NEXT E	2070 A\$(E)=A\$(E+C)	2390 K=D
1430 FOR AA=E TO J-A	1770 PRINT #4: : : :TAB(36);"PAGE";D;CHR\$(12);CHR\$(13)	2080 A\$(E+C)="	2400 D=D-A
1440 A\$(AA)=A\$(AA+A)	1780 CLOSE #4	2090 AB=AB-A	2410 GOTO 2430
1450 NEXT AA	1790 IF D>N THEN 720	2100 NEXT E	2420 M=0
1460 A\$(J)="	1800 D=D+A	2120 IF (M=77)*(Q=A)*(K>D) THEN 2130 ELSE 2150	2430 IF (Q=68)*(Y=A) THEN 1300
1470 J=J-A	1810 AC=A	2130 D=D+A	2110 J=E-A;2440 M=77
1480 E=E-A	1820 GOTO 2160	2140 GOTO 1830	2450 GOTO 1300
1490 IF E>0 THEN 1510	1830 IF R>A THEN 1860	2150 IF (N<>0)*(D>N)*(L=0)+(N=0) THEN 2260	2460 IF AF=0 THEN 700
1500 E=A	1840 INPUT "Press ENTER when BASIC-DISK is in Drive 1":Q\$	2160 OPEN #2:"DSK1."&P\$&STR\$(D),INPUT,INTERNAL,VARIABLE	2470 DELETE "DSK1."&P\$&STR\$(D)
1510 NEXT E	1850 R=R+A	2170 IF L=77 THEN 2190	2480 GOTO 1150
1520 IF D=0 THEN 1670	1860 OPEN #3:"DSK1."&P\$&STR\$(D),OUTPUT,INTERNAL,VARIABLE	2180 J=0	2490 INPUT "Press ENTER when BASIC DISK is in Drive 1":Q\$
1530 IF (M=77)*(J>C) THEN 1640	1870 FOR E=A TO J	2190 J=J+A	2500 R=R+A
1540 IF (J>C)*(Q=0) THEN 1670	1880 PRINT #3:A\$(E)	2200 INPUT #2:A\$(J)	2510 IF AF=A THEN 2530
1550 IF (J>C)*(Q=68) THEN 1620	1890 IF M<>77 THEN 1910	2210 IF A\$(J)<>" THEN 2230	2520 D=2
1560 IF (Q=A)+(D=N) THEN 1830	1900 A\$(E)="	2220 J=J-A	2530 OPEN #3:"DSK1."&P\$&STR\$(D),INTERNAL,APPEND,VARIABLE
1570 L=77		2230 IF EOF(2) THEN 2240 ELSE	2540 IF N>A THEN 2560
1580 Y=0			
1590 M=0			

2550 N=2	2690 IF AF=A THEN 2830	2840 D=D+A	Q\$
2560 IF (J)>P)*(AF=0)THEN 2610	2700 AD=0	2850 AD=0	2970 R=R+A
2570 IF P<>A THEN 2610	2710 D=A	2860 P=A	2980 IF (D=A)*(A\$(A)<>"")THE N 1300 ELSE 700
2580 AB=J	2720 P=A	2870 GOTO 2150	2990 INPUT "Directory Filena me: ";P\$
2590 IF J<C THEN 2610	2730 J=C	2880 D=A	3000 IF P\$="DB" THEN 2990
2600 J=C	2740 AF=A	2890 P=A	3010 P\$=SEB\$(P\$,A,B)
2610 FOR E=P TO J	2750 DELETE "DSK1."&P\$&STR\$(D)	2900 AF=0	3020 N=0
2620 PRINT #3:A\$(E)	2760 GOTO 2530	2910 GOTO 2150	3030 OPEN #5:"DSK1.DD",UPDAT E,INTERNAL
2630 AD=AD+A	2770 IF A\$(E)=" THEN 2880	2920 Q=A	3040 PRINT #5:P\$,N
2640 A\$(E)="	2780 D=D+A	2930 IF (D=A)*(N=A)THEN 1830 ELSE 3030	3050 CLOSE #5
2650 NEXT E	2790 P=E	2940 INPUT "Disk to delete: ":U\$	3060 IF Q<>A THEN 720 ELSE 2 90
2660 J=AB	2800 IF D<N THEN 2530	2950 D=68	3070 END
2670 CLOSE #3	2810 N=D	2960 INPUT "	
2680 IF (P=A)*(D<>A)THEN 277 0	2820 GOTO 2530		
	2830 IF D<>A THEN 2850		

Press ENTER when
BASIC-DISK is in Drive 1 "

FROM YER EDITOR

Besides recovering from the flu, I have been busy building myself a computer desk for the last two weeks. Consequently, I have had very little spare time so I have relied heavily on newspaper clippings to fill out this month's issue of the newsletter.

Also, for those who are interested in improving their computer knowledge, I have included a list of evening courses available from the U of A on their extension program.

My thanks to this month's contributors, Michal Jaegermann and Jim Mulligan.

I am running short of articles; all donations are gratefully recieved.

ANSWERS TO TI-TRIVIA

1. TI BASIC was developed for TI by Microsoft Corporation.

2. Yes you can but only in X-BASIC. For example if you type a line number and then CTRL ; then enter and then LIST the program you will see that the above line will be a PRINT statement. Similarly, CTRL G gives GOSUB and CTRL H gives RETURN. There are many others available. Try experimenting to discover the hidden shorthand. We will publish a list next month.

3. The result of the TAB will be to center the string N\$ on column N. This is equally effective in formatting text to your printer. N should be limited to a number such that the evaluation of the TAB will be greater than zero and less than the highest printable column minus one half of the length of your longest expected character string.

THESE ARE DISK LABELS GENERATED
BY JIN'S PROGRAM LISTED ABOVE

Filename	Size	Type	P	Filename	Size	Type	P	Filename	Size	Type	P
DAFFY-PUN	38	PR	Y	PUNS(17)	9	IF100		PUNSHIP	4	PR	
LOAD	2	PR		PUNS(18)	9	IF100		QUATRAMT	26	PR	
PUN-FILE	70	PR		PUNS(19)	9	IF100		SPIDER-IN	42	PR	Y
PUNS(1)	9	IF100		PUNS(20)	9	IF100		TEATIE	16	PR	
PUNS(10)	9	IF100		PUNS(21)	9	IF100		MANDERER	44	PR	
PUNS(11)	9	IF100						TREASURE	31	PR	

Filename	Size	Type	P	Filename	Size	Type	P
ACEY-DEUCY	9	PR		DESERT-ADV	32	PR	
ANTI-AIR	13	PR		GOBLIN	14	PR	Y
BATBUG(1)	22	PR		HIDDENMAZE	15	PR	
BATBUG(2)	22	PR		INVITATION	13	PR	
BLOCKADE	42	PR		LOAD	8	PR	
FOR-ALLEY	18	PR	Y	MAZE	9	PR	

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computer awareness e101

Don't be left behind in the information revolution: increase your computer awareness! This class, highly recommended for computer novices, is the first in a series of three that will introduce you to the wonderful world of computing, both for home and business use. The introductory class will give you "hands-on" experience with a desktop computer.

4 hours, 1 session 6:00 pm to 10:15 pm
September 3, 1985 Course #8215
October 9, 1985 Course #8216

Fee: \$48.

computer awareness II e102

Second in a series of three classes, Computer Awareness II will take an in-depth look at the computer applications introduced in the first class. Learn more about business and home applications like word processing and spreadsheets.

4 hours, 1 session 6:00 pm to 10:15 pm
September 4, 1985 Course #8217
October 10, 1985 Course #8218

Fee: \$48.

computer awareness III e103

The final class of a series of three, this class explores the world of information management and microcomputers. Learn about advanced electronic record storage and manipulation as well as other important computer applications.

4 hours, 1 session 6:00 pm to 10:15 pm
September 5, 1985 Course #8219
October 11, 1985 Course #8220

Fee: \$48.

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**Introduction to the
disk operating system
(dos) e116**

This course is designed for computer beginners. Upon completion of this course, the participant will have a basic understanding of the link between software and hardware. The Disk Operating System (DOS) provides you with complete control of your computer to duplicate disks, copy files and other important utilities.

4 hours, 1 session 6:00 pm to 10:25 pm
October 17, 1985 Course #8221
November 27, 1985 Course #8222

Fee: \$48.

**advanced disk
operating system
(dos) e117**

This course is designed for individuals who have a good working knowledge of DOS. Learn some of the more powerful functions of DOS, such as subdirectories, database management, advanced batch applications and disk management. Prerequisite: Introduction to DOS - E116, or a good working knowledge of DOS functions, including EDLIN and batch files.

4 hours, 1 session 6:00 pm to 10:15 pm
October 18, 1985 Course #8223
November 28, 1985 Course #8224

Fee: \$64.

**how to select
a microcomputer
system**

e125

This course is directed to individuals who are interested in the purchasing aspects of a microcomputer. Compare various hardware and software packages to find out what fits your specific needs. Class provides an overview of the steps required in selecting a microcomputer system, discusses computer capabilities, software availability and ease of use.

4 hours, 1 session 6:00 pm to 10:15 pm
September 6, 1985 Course #8225

Fee: \$48.

**management & computers:
opportunities
& issues**

e200

This course will guide managers through the purchasing, implementation and planning aspects, with a close look at applications and their uses.

4 hours, 1 session 6:00 pm to 10:15 pm
November 22, 1985 Course #8226

Fee: \$48.

using dbase II

e302

This course is designed for individuals with an interest in Data Base Management software. dBASE II is a command driven relational data base system that has a built-in application development language. Files are created, edited, appended and modified with simple English text commands. Learn the rudiments of this powerful database package with "hands-on" examples designed to maximize your learning.

8 hours, 2 sessions 6:00 pm to 10:15 pm
September 9 & 10, 1985 Course #8227
October 21 & 22, 1985 Course #8228
December 2 & 3, 1985 Course #8229

Fee: \$119.

using pfs: file

e306

This course is designed for persons who are interested in Data Base software, and in integrated software. Learn to use one of the most popular data management packages available. You will get "hands-on" experience.

2 hours, 1 session 6:00 pm to 10:15 pm
October 2, 1985 Course #8230
November 14, 1985 Course #8231

Fee: \$24.

using pfs: write

e307

This course is for individuals who are interested in Word Processing software ... clerical staff, secretaries, etc. This course will show you how to effectively use this extremely popular word processor.

2 hours, 1 session 8:15 pm to 10:15 pm
October 2, 1985 Course #8232
November 14, 1985 Course #8233

Fee: \$24.

spreadsheet review

e501

This course is designed for individuals who are exploring the possibility of using Spreadsheet software. Stamp out number crunching and give yourself more time to manage your home or business with popular software programs like LOTUS, VISICALC and MULTIPLAN. This course explores the capabilities of all three of these exciting programs.

4 hours, 1 session 6:00 pm to 10:15 pm
September 11, 1985 Course #8234
October 23, 1985 Course #8235

Fee: \$48.

**Introduction to
lotus 1-2-3**

e506

This course will be of use to any person who is interested in Business Application software, for example, engineers, analysts, office managers, research officers, clerical workers, etc. Plan, forecast, project, allocate, analyze: LOTUS does it all. Learn to use this highly popular program to help you spread through the most tedious tasks. LOTUS gives you spreadsheets and answers "What if?" financial projections.

8 hours, 2 sessions 6:00 pm to 10:15 pm
September 12 & 13, 1985 Course #8236
December 4 & 5, 1985 Course #8237

Fee: \$119.

small group instruction

All courses are conducted in the new micro lab on the top-rated Sperry Univac microcomputer. The lab has 12 positions, so that all groups are limited to that number.

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**Intermediate
lotus 1-2-3**

e507

This course will be of use to any person who is interested in Business Application software, for example, engineers, analysts, office managers, research officers, clerical personnel, etc. Expand on what you learned in Introduction to LOTUS 1-2-3 - E506. Become an expert with one of the most popular integrated software packages available.

8 hours, 2 sessions 6:00 pm to 10:15 pm
September 17 & 18, 1985 Course #8238
December 9 & 10, 1985 Course #8239

Fee: \$119.

**automated accounting:
Inventory control** e515*Prerequisite:*

Computer Awareness series E101, E102, E103 or a good working knowledge of microcomputers plus a basic understanding of accounting.

This course is designed for individuals who are interested in learning how to use a microcomputer for accounting purposes. Upon completion of this course, the participant will have set up an inventory control system. Learn to build files, create reports and set up your inventory.

4 hours, 1 session 6:00 pm to 10:15 pm
September 16, 1985 Course #8240
October 28, 1985 Course #8241
December 11, 1985 Course #8242

Fee: \$64.

**automated accounting:
accounts payable
systems** e517*Prerequisite:*

Computer Awareness series E101, E102, E103 or a good working knowledge of microcomputers, plus a basic understanding of accounting.

This course is designed for individuals who are interested in learning how to use a microcomputer for accounting purposes. Upon completion of this course, the participant will have explored the automation of accounts payable accounting, while having "hands-on" experience with a popular accounts payable software package.

4 hours, 1 session 6:00 pm to 10:15 pm
September 25, 1985 Course #8243
November 8, 1985 Course #8244

Fee: \$64.

**automated accounting:
accounts receivable
systems** e518*Prerequisite:*

Computer Awareness Series E101, E102, E103 or a good working knowledge of microcomputers, plus a basic understanding of accounting.

This course is designed for individuals who are interested in learning how to use a microcomputer for accounting purposes. Learn to automate your accounts receivable using a microcomputer. This course gives you the fundamentals of computerizing your receivables, as well as "hands-on" experience with microcomputer and popular software.

4 hours, 1 session 6:00 pm to 10:15 pm
September 26, 1985 Course #8245
November 6, 1985 Course #8246

Fee: \$64.

**automated accounting:
general ledger
systems** e519*Prerequisite:*

Computer Awareness series E101, E102, E103 or a good working knowledge of microcomputers plus a basic understanding of accounting.

This course is designed for individuals who are interested in learning how to use a microcomputer for accounting purposes. This course gives you "hands-on" experience with microcomputer and a well-known general ledger package. The class will also provide you with the know-how to automate your general ledger accounting.

4 hours, 1 session 6:00 pm to 10:15 pm
September 27, 1985 Course #8247
November 7, 1985 Course #8248

Fee: \$64.

advanced lotus 1-2-3 e520

This course will be of use to any person who is interested in Business Application programs, for example, engineers, analysts, office managers, research officers, educators, clerical personnel, etc. This course lets you explore the intricacies of LOTUS 1-2-3 with an emphasis on programming and macros. Prerequisite: LOTUS Intermediate - E507, or a good working knowledge of LOTUS, including database.

8 hours, 2 sessions 6:00 pm to 10:15 pm
September 23 & 24, 1985 Course #8249
December 12 & 13, 1985 Course #8250

Fee: \$119.

using pfs: project e522

This course will be of interest to any persons who are interested in planning strategies. Your microcomputer can be a tremendous asset to your planning strategies. Learn to use PFS: Project to help you organize and manage your varied projects and to integrate PFS: Project with your other PFS packages.

2 hours, 1 session 6:00 pm to 8:00 pm
October 3, 1985 Course #8251
November 15, 1985 Course #8252

Fee: \$32.

using pfs: plan e523

This course will be of interest to any individual who is interested in Business Applications. Forecasting and planning can be easily done with your microcomputer using PFS: Plan. Learn how to use this software in this informative course.

2 hours, 1 session 6:00 pm to 10:15 pm
October 3, 1985 Course #8253
November 15, 1985 Course #8254

Fee: \$32.

word processing review e601

This course is designed for any person who is interested in the purchasing aspect of Word Processing software. Make your writing time more productive with popular word processing packages like WORDSTAR, MULTIMATE, SELECT and WORD PERFECT. Explore each software package and then determine what's right for you.

4 hours, 1 session 6:00 pm to 10:15 pm
October 31, 1985 Course #8255

Fee: \$48.

Introduction to wordstar e603

This course is directed at persons who are interested in Word Processing software, such as clerical staff and secretaries. WORDSTAR is one of the most widely used word processing packages and can be used on a wide range of computers. This screen-oriented, menu-driven program allows for block movement, justification and full search capabilities. You can copy, merge, delete and back-up files automatically. Explore the potential that this powerful program has for you.

8 hours, 2 sessions 6:00 pm to 10:15
September 19 & 20, 1985 Course #8256
November 4 & 5, 1985 Course #8257

Fee: \$119.

advanced wordstar e604

This course is directed at any individual who is interested in Word Processing software, such as clerical staff and secretaries. Did Introduction to WORDSTAR - E603 wet your appetite to know more? Advance your skills beyond the beginning level and explore the power of one of the most popular word processing programs.

8 hours, 2 sessions 6:00 pm to 10:15 pm
September 29 &
October 1, 1985 Course #8258
November 12 & 13, 1985 Course #8259

Fee: \$119.

Introduction to multimate e606

This course is directed at any individual who is interested in Word Processing software, such as clerical staff and secretaries. Learn one of the most powerful word processors on the market today. Using a microcomputer, you will be introduced to MULTIMATE's power and capabilities.

8 hours, 2 sessions 6:00 pm to 10:15 pm
October 7 & 8, 1985 Course #8260
November 20 & 21, 1985 Course #8261

Fee: \$119.

advanced multimate e607

This course is directed at any individual who is interested in Word Processing software. This course takes up where Introduction to MULTIMATE - E606 leaves off and acquaints you with some of the more sophisticated powers of MULTIMATE.

8 hours, 2 sessions 6:00 pm to 10:15 pm
October 15 & 16, 1985 Course #8262
November 25 & 26, 1985 Course #8263

Fee: \$119.

Good sense, nonsense in plans to update copyright act

By Ron Chalmers

THE EDMONTON JOURNAL, Monday, October 14, 1985

A parliamentary subcommittee wants computer programs and videotapes to be protected by the Copyright Act.

Good sense. (The nonsense comes later.)

The Canada Copyright Act, written in 1925, naturally ignored computers and video cassette recorders. And Canadian courts have never decided whether the old act covers new technology.

Rather than just hope for a favorable precedent, industry has lobbied for specific extension of copyright protection.

The parliamentary subcommittee agreed that programs and videos should be treated as books, with copyright lasting 50 years after death of the creator.

The subcommittee also wants the maximum fine of \$200 raised to \$1 million.

This might seem common sense to anyone who opposes theft and sees circuits, discs, tapes and books as alternate means toward one end — communication.

But common sense was ignored by an earlier Ottawa white paper, From Gutenberg to Telidon. Commissioned by the Liberals and released by the Conservatives, it said all machine-readable programs should be wide open, five years after first marketing.

Under that scheme, WordStar software, UNIX operating system, and the Apple II ROM chip now would be in the public domain. While machines have patent protection and books have life-plus-50-year copyright, computer programs would have neither.

Of course, the computer establishment loves the committee's rejection of that proposal for legalized theft.

Now the nonsense.

The report makes a vague proposal to collect fees from buyers, sellers or renters of videotapes, software or hardware (I warned you it was vague!) that could be used to make illegal copies.

The money would go to creators who are cheated by copying.

There's a mega-flaw in this flim-flam. It presumes collective guilt among all computer users. Combined with the copyright amendment, it tells users: "You can't make copies, but you will anyway, so we're charging you a fee, but you still can't do it."

The report now circulates for comment and de-bugging. Legislation is expected next year.

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