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THE HUGERS
HOOSIER USERS GROUP
 People Helping People

MARCH, 1986

THE HUGERS NEWSLETTER

VOLUME 3, NUMBER 12

THE OFFICERS' CORNER

Well everybody, TI did it to us again... Effective March 28, the Exchange Center will close permanently. All hardware is to be shipped to Lubbock for repair. You can now expect a six to eight week wait for repair and return of any malfunctioning hardware. Gee, what's next, no chips?

The staff of the Indianapolis Exchange Center is referring consumers with questions about the 4/A to their local Users Group. Seeing that the Users Groups remains the best (and now last) source of help for 4/A users, I have a proposal to make. I would like to see our Users Group pick up where the Exchange Center left off. In other words, the group would become a 4/A salvage and repair center. To do this, the Users Group will accept donations of any dead consoles, modulators, power supplies, keyboards and hardware. (I have a "dead" console here, out of which I used parts to fix three other consoles.) If you have any questions or ideas please forward them to my attention.

If you plan on checking out the bargains at the Indiana Hamfest, stop by and say Hi! The Users Group and Larry Conner will have tables set up in the flea market. (The Indiana Hamfest will be at the Indiana State Fairgrounds again this year. It runs from 8:00 am to ? on this coming Sunday, March 9, 1986). And don't forget that our March Monthly Meeting is postponed one week (due to the Hamfest) and will be held on March 16, 1986; same time, same place.

And while I am thinking of it, could someone who is proficient in Millers Graphics Explorer do a workshop at one of the upcoming meetings? I need some HHHEEELLPPPP!!!!!!

See you at the Hamfest and at the March 16th Monthly Meeting! J. Steven Sims

THE NEXT MONTHLY MEETING WILL BE
 MARCH 16, 1986
 STARTING AT 2:00 PM AT CREATIVE LOGIC
 SEE YOU THERE!

WORKSHOPS: KEYBOARD KLINIC
 HAM'S AND THE TI
 PROGRAMMERS CORNER

SOUTH REGIONAL MEETING

Saturday, March 22
 1:30 pm to 4:30 pm
 (See page 2 for more details)

KEYBOARD KLINIC

by Bill Jones (of Indy)

A few nights ago I was programming away and discovered I had lost the '=' key.

Step one was to pull the key cap and clean the contact. No luck. I pulled off the bottom of the computer and found the problem.

Most of the keyboards I've seen on TI's are made on a paper phenolic PC board that absorbs humidity from the air. That makes it swell and shrink, eventually, the solder joints crack and the key stop working. I checked my other computer and found it also had some cracks starting. Both of them are over two years old. One I use daily, and the other I keep as a spare. This problem is caused by time not by use.

Since it is a problem that we will see more and more of, I'm going to do a clinic at the next meeting for anyone who wants to have their keyboard checked. This is not a problem that is likely to effect blond computers because they are too new, and many of them use a different kind of keyboard.

If you have a black console, bring it next month and we'll check it out!

HAPPY BIRTHDAY!

A Happy HUGger Birthday to these members who joined, or renewed, in March, 1985: Charley Trotter, Lionel Sipes, Carl & Brian Richwine, Ed Lewis and David Artman. It's time to renew!

WELCOME!

The Hoosier Users Group welcomes Ray Neff, Chris Fulton and Kenneth Liggon who joined in the past month.

WELCOME BACK!

We also welcome back Earl Pauley, Marijane Smith and Frank Chase who renewed in the past month.

SOUTH REGIONAL NEWS

The South Regional meeting will be held on Saturday, Mar. 22, from 1:30 to 4:30 P.M. The meeting will be held at 4582 Moccasin Pl., Greenwood. You may obtain additional information or directions by calling Dennis Sherfy at 891-5918.

ANOTHER USE OF THE LOAD INTERRUPT SWITCH
by Gary Brown
in the J*U*G*S Newsletter


Assemble this source code

```
AORG >FFFF
DATA >A000,B0BE END
```

Load SBUG
Load the interrupt program you have assembled above.
Press Function =(Quit)
Do not turn console or P-Box off
Insert a cartridge and start it running.
Press the interrupt switch and you will have the SBUG title screen

Follow the instructions and go into addresses 6000 thru 8000 find the program in these addresses. Then you can disassemble these addresses.

Remember no one assumes any liability for your computer should you try any console modifications.



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PRINT USING

USING "PRINT USING" WITH YOUR PRINTER
by Richard Roberts
MSP 99 NEWSLETTER

Reprinted from "Topics", the monthly newsletter of the LA 99ers. Richard Roberts is President of the Dallas TI99/4A Users Group.

One of the more obscure statements available with TI Extended BASIC is one called PRINT USING. Even more obscure is the fact that this statement can be used to format variables and constants that will be dumped to your printer. On page 150 of the Extended BASIC manual, several examples of how PRINT USING can be used to format data for screen display are shown, but nary a word of how to do the same with open files. It can be done, and is much more powerful than you may realize.

Any discussion of PRINT USING will require an understanding of the IMAGE statement, so if you are not familiar with it, you'd better brush up on it first. The PRINT USING statement uses IMAGE in one of two ways, either with a string expression, or a line number reference. I prefer the latter, as it allows for more flexibility, but since these different methods are explained in the manual, I will limit this to a few simple examples that are not shown in the manual.

```
100 TCOST=19.55
110 IMAGE "###.##"
120 OPEN #1:"PI0"
130 PRINT #1,USING 110:TCOST
```

Running this sample program will effectively show how the PRINT USING statement will work with an open file. Of course, there are many other variations of IMAGE that can be used, so experiment with them and watch how it performs when line 130 dumps it to the printer. Shown below are a few more examples for use with an open file.

```
110 IMAGE "##.## ##.##"
130 PRINT #1,USING 110:COST1,COST2
```

This IMAGE statement will allow you to print two (or more) variables at a predetermined spot on the same line. The length of the string expression in the IMAGE statement can be as long as you wish, up to the limit of an Extended BASIC line.

```
110 IMAGE "##### ##.##"
130 PRINT #1,USING 110:"TOTAL COST",TCOST
```

This version shows how you can format the printed line for string data as well as numerical data. A string variable could be used in place of the string constant, as below.

```
105 A$="TOTAL COST"
110 IMAGE "##### ##.##"
130 PRINT #1,USING 110:A$,TCOST
```

It is also possible to place the IMAGE statement inside in PRINT USING statement, as shown below.

First, Delete line 110.

```
130 PRINT #1,USING "##.##":TCOST
or
130 PRINT #1,USING "##### ##.##"
##.##":A$,TCOST
```

A few other points to remember include the fact that IMAGE and PRINT USING can be used to round off calculated variables. A single string expression such as "#####.##" will round off and align decimal numbers as small or as large as needed and place a number at any designated location.

This function could save many hours of algorithm development for accomplishing the same thing. So, in the long run, the PRINT USING statement is one that any programmer should be very familiar with, and use as much as possible.

THINGS TI NEVER TOLD YOU

by Jim Ellis

How many of you using Multiplan with two drives are bothered by having to set up the system after loading for DSK2? Well if you know how to use Disk Fixer or some other similar program here is the way to make Multiplan come up with DSK2 as the default drive for your files.

The following is a sector from Multiplan, it is the second sector of the MPINTR file. The byte I have left empty normally contains 31 (hex for 1). With your sector editor, change this byte to 32 (hex for 2), then save the sector back to your disk. When you load Multiplan you wont see it display DSK2 under the TRANS/LOAD OPTION, but it will look at drive 2 for your files.

I found this out by trying different things until I got the right results, because I was tired of having to setup the drive every time I loaded the system. Hope this helps someone.

```
3908 8320 3A28 8320 3864 8320 38DA
8320 35E0 8320 3DCC 8320 3F4C FF00
0410 0000 0000 0000 0000 0000 0000
0000 0000 0000 0000 0000 0000 0000
0000 0000 0000 0000 0000 2EAA 0000
0000 0000 0000 0000 0000 0000 0000
0000 0000 0000 0000 4453 48 2E20
0010 4453 4B2E 5449 4D50 2E4F 5645
524C 4159 000E 4453 4B2E 5449 4D50
2E4D 5040 4C50 0000 0000 0000 0000
0000 0000 0026 0000 0000 0000 0000
0000 0000 0000 0000 0000 0000 0000
0000 0000 0000 0000 0000 0000 0000
0000 0000 0012 0620 5000 0000 000C
5253 3233 322E 4241 3D33 3030 2020
2020 2020 2020 2020 2020 2020 2020
2020 2020 2020 2020 2020 2020 FFFF
03E0 0412 24CC 0000 0000 0003 0000
FFFF 0492
```

LIBRARY BITS

by Dennis Sherfy

POKER on BASIC-8 performs one of a computer's more interesting functions, simulation. This program simulates a game of poker solitaire.

The program displays cards on the screen in a realistic form. It is a good program to study for the techniques used to simulate a deck of cards and to create the card graphics.

The game is 5-card draw poker. You determine how much you want to wager on each hand and you play against the odds of obtaining any given combination. You lose with less than a pair, break even with a pair, and you win various multiples of your wager if you get a better combination than a pair.

Perhaps after studying this program, you could develop a game of 21 for our library.

EXTENDED-6 contains a game for your kids. I say it's for kids because they are probably the only ones with the persistence to learn how to beat this. The program is RUNWAY. A JOYSTICK IS REQUIRED. It challenges you to land an airplane on a runway. You control the plane's rate of descent and airspeed. You must make a soft landing and come to a stop before running out of runway. I never did. I'm sure there is a combination of descent and airspeed which will allow you to land safely each time, but I haven't figured it out. I stalled, bounced, crashed, and ran out of runway. Perhaps you can do better.

One of our members redefined a screen full of characters to create Pegasus, the legendary flying horse. The program, PEGASUSXB, is on EXTENDED-5. Your kids will enjoy this, and you can learn something about screen graphics.

NEWSLETTER GLEANINGS

by Jim Ellis

This month we were run over with mail in Box 2222.

T.A.P.E. of Ontario, CA 91764 is listing products developed in Germany by MECHATRONIC GmbH. The items consist of 'GRAM-KARTE', (sim to Gram-Kracker), but goes in the P-box or stand alone, an 80 column card, XB 11 + cartridge, just to name a few.

We have received a Freeware listing of a program that prints 8 or 10 square partition paper, using any Epson-compatible printer. It must have the ability to go into 960 dot graphics mode with the code: <ESC> 'L' N1 N2. It is just the listing. The 8 square can be used to make TI graphics characters. The writer is asking \$2.00 if you use the program.

On a brighter note, how about some color disks to spice up your disk file? RIGHT ON PROGRAMS offers six colors: white, red, light blue, lilac, beige, and green. You may mix or match, for just \$8.50/10 plus \$2 shipping UPS.

Texaments is offering a discount to user groups on TI-Artist, Artist's Companion, and Artist Extras. The discount is 10% when 10 or more pieces are ordered. The prices are \$19.95, 17.50, and 6.95, each respectively or all 3/\$41.95 plus \$1.50 for each item.

While on the subject of TI-Artist, Asgard Software has an Artist Companion for just \$7, Quick Dialer \$10, a program for use with your modem, also Recipe Writer \$12.

Now here is just the thing for those who like to have their Forth and eat it, too. Recipe Writer is written in Forth, which runs very fast, it has one-touch menus in English, does conversions for different size servings, will print on index cards or reg. paper.

Received by the author from Quality 99 Software (tm) a flyer offering all their programs at \$10 off. Offer expires Mar. 10, 1986.

Further info may obtained by leaving me E-mail in box 12 on the board or contact Pam Sims.

TI 99/4A ERROR CODE REFERENCE CHART

The following error code listings were printed in the February, 1986 issue of HOCUS, Newsletter of the Milwaukee Area 99/4 User Group of Wauwatosa, Wisconsin.

EXTENDED BASIC

10 Numeric Overflow
 14 Syntax Error
 16 Illegal after Sbrtn
 19 Name too long
 28 Unrecognized Char
 24 \$/# Mismatch
 28 Improperly used name
 36 Image error
 39 Memory Full
 40 Stack Overflow
 43 NEXT without FOR
 44 FOR-NEXT nesting
 47 Must be in Sbrtn
 48 Recursive Sbrtn CALL
 49 Missing SUBEND
 51 RETURN without GOSUB
 54 String Truncated
 56 Speech \$ too long
 57 Bad Subscript
 60 Line not found
 61 Bad Line #
 62 Line too long
 67 Can't CONTINUE
 69 Command illegal in prgrm
 70 Only legal in prgrm
 74 Bad Argument
 78 No program present
 79 Bad value
 80 Nil
 81 Incorrect argument list
 82 Nil
 83 Input Error
 84 Data Error
 97 Protection Violation
 109 File Error
 130 I/O Error
 135 Sbrtn not found

DISK MANAGER ERROR CODES

#:	First #	Second #
1:	OTHER	Rec not found
2:	SEEK/STEP	Cyclic Redundancy
3:	INPUT	Lost Data
4:	PRINT	Write protect
5:	NIL	Write fault
6:	NIL	No Disk Drive
7:	NIL	Invalid input
8:	NIL	
9:	Special Error Code for Comprehensive Test	

I/O ERRORS

#:	FIRST #	SECOND #
0:	OPEN	Device not found
1:	CLOSE	Write Protected
2:	INPUT	Bad Open Attribute
3:	PRINT	Invalid I/O Command
4:	RESTORE	Out of Space
5:	OLD	EOF
6:	SAVE	Device Error
7:	DELETE	File/Data Mismatch

TI BASIC ERROR CODES PERTAINING TO DISK SYSTEM

#:	FIRST #	SECOND #
0:	OPEN	Can't find specified Disk Drive
1:	CLOSE	Disk or program is Write Protected
2:	INPUT	Bad Open Attribute
3:	PRINT	Illegal Operation
4:	RESTORE	Disk full or too many files opened
5:	OLD	Attempt to read past EOF
6:	SAVE	Device Error
7:	DELETE	File Error
8:	EOF	

EDITOR/ASSEMBLER ERROR CODES

	X.B. ERROR EQUATES
ERRNO	>0200 2 Numeric Overflow
ERRSYN	>0300 3 Syntax Error
ERRIBS	>0400 4 Ill. after Sbrtn
ERRNGS	>0500 5 Unmatched Quotes
ERRNTL	>0600 6 Name too long
ERRSNM	>0700 7 \$/# Mismatch
ERROBE	>0800 8 Option Base Error
ERRNAM	>0900 9 Improperly used name
ERRIM	>0A00 10 Image Error
ERRMEM	>0B00 11 Memory Full
ERRSO	>0C00 12 Stack Overflow
ERRNWF	>0D00 13 NEXT without FOR
ERRFIN	>0E00 14 FOR-NEXT nesting
ERRSNS	>0F00 15 Must be in Sbrtn
ERRRSC	>1000 16 Recursive Sbrtn
ERRMS	>1100 17 Missing SUBEND
ERRRNG	>1200 18 RETURN without GOSUB
ERRST	>1300 19 String truncated
ERRRBS	>1400 20 Bad subscript
ERRSSL	>1500 21 Speech \$ too long
ERRLNF	>1600 22 Line not found
ERRBLN	>1700 23 Bad line number
ERRTL	>1800 24 Line too long
ERRCC	>1900 25 Can't Continue
ERRCIP	>1A00 26 Illegal in program
ERRDLP	>1B00 27 Only legal in program
ERRBA	>1C00 28 Bad argument
ERRNPP	>1D00 29 No program present
ERRBV	>1E00 30 Bad value
ERRIAL	>1F00 31 Incorrect argument list
ERRIMP	>2000 32 Input error
ERRDAT	>2100 33 Data error
ERRFE	>2200 34 File error
ERRIO	>2400 36 I/O error
ERRSNF	>2500 37 Subprogram not found
ERRPV	>2700 39 Protection violation
ERRIMV	>2800 40 Unrecognized character
WRAND	>2900 41 Numeric overflow
WRNST	>2A00 42 String truncated
WRNPP	>2B00 43 No program present
WRNIMP	>2C00 44 Input error
WRNIO	>2D00 45 I/O error

LOADER ERROR CODES

0-7 Standard I/O
 8 Memory overflow
 9 Not used
 10 Illegal tag
 11 Checksum error
 12 Unresolved ref.

EXECUTION ERRORS

0-7 Standard I/O
 08 Memory Full
 09 Incorrect Statement
 0A Illegal Tag
 0B Checksum Error
 0C Dup. Definition
 0D Unresolved Ref.
 0E Incorrect Statement
 0F Program not found
 10 Incorrect Statement
 11 Bad Name
 12 Can't CONTINUE
 13 Bad Value
 14 Number too big
 15 String-Number
 16 Bad Argument
 17 Bad Subscript
 18 Name Conflict
 19 Can't do that
 1A Bad Line Number
 1B FOR NEXT Error
 1C I/O Error
 1D File Error
 1E Input Error
 1F Data Error
 20 Line too long
 21 Memory Full
 22- Unknown Error Code

RS232c ERRORS

OPEN:	00 Device cannot be opened
	02 Software Switch Error
	06 Hardware Error
INPUT:	24 Internal Data too large for buffer
	26 'CLEAR' pressed or Hardware Error
PRINT:	36 'CLEAR' pressed or Hardware Error
OLD:	50 Can't load from specified device
	52 Can't use software switch with 'OLD'
	54 Program too large to load
	56 'CLEAR' pressed or Hardware Error
SAVE:	60 Can't save to specified device
	62 See 02. Can't use with SAVE
	66 'CLEAR' pressed or Hardware Error
MISC:	43,73,83,93, Executing Illegal Command

TI WRITER ERROR CODES

0 - Indicates Disk Controller not on;
 OR: Diskette not Initialized
 6 - No Disk in Drive; OR: Is upside down;
 OR: Drive is not turned on
 7 - No Disk in Drive
 00 - Illegal use of LoadF, PrintF; OR:
 Error in using those commands
 02 - No file in Diskette with Filename used
 04 - Disk is full
 06 - PrintF Command in progress was
 interrupted; OR: Disk Door was opened
 while Red Light was on.
 07 - Invalid Filename (I.E. Name too long
 or using invalid characters)
 15 - Invalid Disk Drive Number, or Device

32K MEMORY CHECKER

by Joe Nuvalini

Editor's Note: The following article was reprinted from the February, 1986 issue of "The Front Ranger", Newsletter of the Front Range 99er Computer Club of Colorado Springs, Colorado.

I recently picked up a second TI system at a bargain price but to my chagrin, I found that the 32K memory card was bad. With the help of one of our members, Darnell Denison, I found that I had a bad 4116 chip. Darnell wrote me a short program that told us which one it was. I took that program and refined it a bit and the program below will tell you exactly which 4116 chip is bad. Of course, you must key the program if your memory card is bad. Once keyed in the program will allow you to select the top or bottom row of chips and it will list the chips in the row selected by chip number, i.e., U35, U34, ...etc. and tell you whether the chip is OK or BAD. Then you need only replace the chip and your card is fixed saving you \$47+. Remember this program will only tell you if one of the 16 4116 chips is bad. If it is one of the other chips, this program will not work. Luckily, the chip that was bad on mine was a 4116 and it is now working just fine as I write this article. By the way, Bob Haggart was kind enough to give me a tube of 4116 chips that he had removed from a TRS 80 so if you should need one I have a good supply, and will be glad to give you one. Also, TI put those chips in to stay and they are a bear to get out. If you change one, I suggest you put a socket in to hold the replacement. The program listing follows:

```
110 PRINT "MEMORY EXPANSION CHECKER": : :
120 PRINT "SINCE PROGRAMS LOADED FROM DISK IN XB LOAD INTO THE
32KMEMORY. THIS PROGRAM SHOULD BE KEYED IN IF YOUR 32K CARD IS BAD!":
:
130 PRINT "TO USE THE INFORMATION PROVIDED BY THIS TEST ORIENT YOUR
MEMORY EXPANSION BOARD WITH THE TWO ROWS OF 4116 CHIPS AT THE TOP.":
: :
140 PRINT "ENTER: 1 TO CHECK TOP ROW OF CHIPS 2 TO CHECK BOTTOM ROW
3 TO END"
150 CALL KEY(C,K,S):: IF S=0 THEN 150
160 IF K<49 OR K>51 THEN 150
170 R=K-48
180 IF R=1 THEN A=12288 ELSE IF R=2 THEN A=12287 ELSE IF R=3 THEN
CALL CLEAR :: END
190 IF R=1 THEN N=35 ELSE N=27
200 CALL CLEAR
210 IF R=1 THEN PRINT "TEST OF TOP ROW OF 4116'S." ELSE PRINT "TEST
OF BOTTOM ROW OF 4116'S"
220 PRINT ":READING FROM RIGHT TO LEFT..": :
230 FOR I=0 TO 7
240 IN=2 I
250 CALL INIT
260 CALL LOAD(A,IN)
270 CALL PEEK(A,D)
280 IF IN=D THEN PRINT "CHIP U";STR$(N);" IS OK" ELSE PRINT "CHIP
U";STR$(N);" IS BAD"
290 N=N-1
300 NEXT I
310 PRINT
320 INPUT "PRESS ENTER TO CONTINUE ":XS
330 GOTO 100
```

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For descriptions of these send a dollar for my catalog!

The offer made last month is still good until 1 January - a 10% rebate directly to the user group if one of their members mentions the user group when ordering from me. So far, I've had only 10 responses - and I suspect that 8 or 9 of those didn't even know about the offer!

I goofed again. In the I/O ERROR routine in Tips #28, the ON ERROR STOP will do no good in the place where I put it. It should be placed after the file is opened in line 100 so that it will become the current error trap if the file is opened correctly.

And the CALL KEY example in Tips #28 will look better if R=14. A couple of very knowledgeable programmers have written to tell me that I was wrong, and the manual is right, about CALL KEY status -1. They say that -1 simply means that the same key is being pressed as was pressed during the last keyscan, and that it could have been released and repressed in the interim. This may be, but try this routine and see if you can release and repress a key without getting a status code 0 (no key pressed) and status code 1 (different key pressed) before another status code -1.

```
100 CALL KEY(0,K,S):: PRINT
K,S :: GOTO 100
```

George Steffen has responded to the challenge in the last

Tips, by publishing in the LA 99ers Topics a remarkably compact routine to translate the internal format string representation of numeric data back into numbers. The following lines will update the Menu Loader accordingly.

```
100 !by A. Kludge/M. Gordon/
T. Boisseau/J. Peterson/G. S
teffen/etc.Version 08, 11/85
140 @,@,A,A@,B,C,D@,E,F,FLA
G,I,J,K,KD,KK,M,M@,N@,N,P,P
@,P@(),PP,PP@,D@,S,ST,T@(),
TT,VT,V(),W@,X,X@,Y,KZ,SZ
810 F=1 :: E=ASC(SEG$(M@,1,1
)): M=ASC(SEG$(M@,2,1)): I
F E=0 AND M=0 THEN GOTO 817
ELSE IF E>128 AND M>128 THEN
F=-1 :: E=255-E :: M=256-M
815 FOR I=1 TO 6 :: M=M+(ASC
(SEG$(M@,1+2,1)))/100^I :: N
EXT I :: M=M#F:100^(E-64)
817 PRINT @P:M
870 FOR P=1 TO MN-1 :: PRINT
@2:P@():TAB(15);V(P,3);TA
B(20);T@ABS(V(P,1));TAB(25
);V(P,2);TAB(31);CHR$(89#ABS
(V(P,1)<0)); NEXT P :: CLOS
E #2
```

The change in the last line is my own, because it was pointed out to me that the catalog output to the printer did not indicate protected files.

That last line is a good example of the power of relational expressions to accomplish compact programming. The variable V(P,1) picks up its value from the variable A which is read from the disk directory in line 350. This is a number from 1 to 5, indicating the type of file, and if the file is write-protected the number is negative. A true expression has a relational value of -1. If the file is protected, V(P,1)<0 is true, and its value is -1, converted by ABS to +1 and multiplied by 89 to give ASCII 89, converted by CHR\$ to "Y". If not protected, V(P,1) is a positive number, V(P,1)<0 is false and has a relational value of 0; 89 times 0 is still 0, and CHR\$(0) prints nothing.

George also mentioned in a letter that my remarks on the UPDATE mode applied only to VARIABLE files; that RESTORE without a number, to return the record pointer to the beginning of a file, works only with VARIABLE files; that RESTORE with a number works only with

RELATIVE files; and that therefore the only way to RESTORE a SEQUENTIAL FIXED file is to close it and reopen it.

On trying this out, I find that you can write to a FIXED SEQUENTIAL file and still be able to read the following records - but you can't simply "read a record, change it in some way, and then write the altered record back out on the file", as the Reference Guide indicates, because you will change the record FOLLOWING the one you read! It is possible to UPDATE a FIXED SEQUENTIAL file without reading it all into an array and writing it back out, but you must read sequentially to the record you want, close the file, reopen the file, read back to the record just before the one you want to update, then write in the updated record.

I have received several other suggestions regarding the Menu Loader, too many to describe here. You can all modify it to your own tastes and needs. Remember to turn off the pre-scan and ON ERROR while you're working on it, then add any new variable names or CALLs to the pre-scan. And remember, that last line MUST be the LAST line of the program! You can resequence it higher, and change the GOTO accordingly, but don't put anything after it!

I did change my version to slash the zero, since this will carry over into a program that is loaded. If you do this, be sure to add a CALL CHAR to the list in line 150!

```
190 CALL CLEAR :: FOR S=1 TO
14 :: CALL COLOR(S,7,16)::
NEXT S :: CALL COLOR(0,2,16)
:: CALL CHAR(48,"003A44C546
44488")
```

When you just want to load a program, waiting for it to be read from the disk directory can be a drag. And, you may have trouble recognizing the filename. So, here is the Tigercub Quickloader which I have placed on all my Collection Disks.

First you will need Catwriter, another program that writes a program. This

one will read the disk directory, ignore everything other than programs, ask you for a complete program name for each filename, and write all that into a MERGE format program called CATMERGE.

```
100 !CATWRITER by Jim Peters
on
110 OPEN #1:"DSK1.",INPUT ,R
ELATIVE,INTERNAL :: INPUT #1
:M$,A,J,K :: OPEN #2:"DSK1.C
ATMERGE",VARIABLE 163 :: LN=
1000 :: FN=1100
120 X=X+1 :: INPUT #1:P$,A,J
,B :: IF LEN(P$)=0 THEN 160
:: IF ABS(A)=5 OR ABS(A)=4 A
ND B=254 THEN 130 ELSE X=X-1
:: GOTO 120
130 DISPLAY AT(12,1)ERASE AL
L:P$:" PROGRAM NAME?" ::
ACCEPT AT(14,1)SIZE(25):F$
140 PRINT #2:CHR$(INT(FN/256
))&CHR$(FN-256*INT(FN/256))&
CHR$(147)&CHR$(200)&CHR$(LEN
(F$))&F$&CHR$(0) :: FN=FN+1
150 M$=M$&CHR$(200)&CHR$(LEN
(P$))&P$&CHR$(179) :: IF X<11
THEN 120
160 IF M$="" THEN 180
170 PRINT #2:CHR$(INT(LN/256
))&CHR$(LN-256*INT(LN/256))&
CHR$(147)&SEG$(M$,1,LEN(M$)-
1)&CHR$(0) :: LN=LN+1 :: M$=""
:: X=X :: IF LEN(P$)<>0 TH
EN 120
180 PRINT #2:CHR$(INT(LN/256
))&CHR$(LN-256*INT(LN/256))&
CHR$(147)&CHR$(200)&CHR$(3)&
"END"&CHR$(0)
190 PRINT #2:CHR$(255)&CHR$(
255) :: CLOSE #1 :: CLOSE #2
```

Next, key in the Quickloader. Do not change the line numbers, do not RESequence, because CATMERGE will be merged into the middle of it and that last line must be the last. Then, enter MERGE DSK1.CATMERGE and then SAVE DSK1.LOAD .

```
100 CALL CLEAR :: DIM M$(48)
:: CALL CHAR(94,"3C4299A1A19
9423C") :: CALL SCREEN(2) :: F
OR SET=1 TO 14 :: CALL COLOR
(SET,15,1) :: NEXT SET :: DIS
PLAY AT(1,4):"TIGERCUB QUICK
LOADER"
110 X=X+1 :: READ M$(X) :: IF
M$(1)<>"END" THEN 110
115 CALL PEEK(190,A) :: IF A
<>179 THEN CALL INIT
120 R=3 :: FOR J=1 TO X-1 ::
READ X$ :: DISPLAY AT(R,1):
STR$(J);TAB(4);X$ :: R=R+1
:: IF R<23 THEN 150
130 DISPLAY AT(24,1):"CHOICE
? OR 0 TO CONTINUE 0" :: ACC
EPT AT(24,26)VALIDATE(DIGIT)
SIZE(-2):N
140 IF N<>0 THEN 155 :: R=3
```

```
150 NEXT J :: DISPLAY AT(24,
1):"CHOICE?" :: ACCEPT AT(24
,9)VALIDATE(DIGIT):N
160 IF SEG$(M$(N),LEN(M$(N)
),1)="" THEN DISPLAY AT(12,1
)ERASE ALL:"Return to BASIC"
:: "Type OLD DSK1."&M$(N) ::
STOP
170 CALL CHARSET :: CALL CLE
AR :: CALL SCREEN(8) :: CALL
PEEK(-31952,A,B) :: CALL PEEK
(A#256+B-65534,A,B) :: C=A#25
6+B-65534 :: A$="DSK1."&M$(N
) :: CALL LOAD(C,LEN(A$))
180 FOR J=1 TO LEN(A$) :: CAL
L LOAD(C+J,ASC(SEG$(A$,J,1)
)) :: NEXT J :: CALL LOAD(C+J,
0) :: GOTO 30000
30000 RUN "DSK1.1234567890"
```

If you don't want to give your Basic-only programs a filename ending in an asterisk, you can leave out that warning routine, or you can modify it to warn of E/A or MiniMemory programs. If Catwriter has picked up any unloadable program-format files, etc., just delete them from the DATA lines.

The first issue of the GENIAL TRAVELER has arrived, and it is SUPERB! This is a magazine-on-a-disk, a SS/SD floppy loaded with 700 sectors of some of the finest articles and programs you'll ever see! And the programs are ready to run, you don't have to key anything in. The subscription price, until the end of 1985 at least, is \$30 for 6 issues, which computes out to \$5 per disk - many of you are paying your own user group that much for a one-sided disk of public domain!

If the subscribers will only have the guts to refuse to let their friends copy this for free, this venture will surely survive and contribute greatly to the advancement of the TI. The address is - GENIAL COMPUTERWARE, 835 Green Valley Drive, Philadelphia PA 19128.

Gene Burchfield asked if I had a program to print banners vertically. I had never heard of such a thing, so I wrote one.

```
100 DISPLAY AT(12,1)ERASE AL
L:"TIGERCUB STREAMER PRINTER
" by Jim Peterson
110 DATA 0000,0001,0010,0011
,0100,0101,0110,0111,1000,10
01,1010,1011,1100,1101,1110,
```

```
1111
120 RESTORE 110 :: DIM B$(16
) :: FOR J=1 TO 16 :: HEAD 80
(J) :: NEXT J :: P$(0)="" ::
P$(1)=CHR$(230)
130 INPUT "TEXT TO BE PRINTE
D? "T$ :: PRINT :: INPUT "P
RINTER DESIGNATION? "PD$ ::
OPEN #1:PD$
140 PRINT :: INPUT "SIZE? (1
-10) "Z :: IF Z<1 OR Z>10 T
HEN 140
150 FOR J=1 TO LEN(T$) :: A=A
SC(SEG$(T$,J,1)) :: IF A=32 T
HEN GOTO 200
160 CALL CHARPAT(A,M$) :: FOR
M=1 TO 15 STEP 2 :: K$=SEG$(
M$,M,2) :: FOR L=1 TO 2 :: L
$=SEG$(K$,L,1) :: B=POS("0123
456789ABCDEF",L$,1)
170 M$=B$(B) :: FOR M=1 TO 4
:: N=VAL(SEG$(M$,M,1)) :: M$=
M$&RPT$(P$(N),Z) :: NEXT M
180 NEXT L :: FOR O=1 TO Z/2
+.5 :: PRINT #1:TAB((O1-Z#0)
/2+.5);M$ :: NEXT O :: M$=""
:: NEXT W :: FOR R=1 TO Z/2
+.5 :: PRINT #1:"" :: NEXT R
190 NEXT J :: STOP
200 FOR T=1 TO Z#4 :: PRINT
#1:"" :: NEXT T :: GOTO 190
210 CALL KEY(0,K,S) :: IF S#0
THEN 210 ELSE RETURN
```

If your printer doesn't have the special characters of the Gemini, substitute 00 instead of 230 in line 120, to print X's, or whatever else you want. If you do have the special characters, try some others, such as 239, for this and other graphics printing programs. This routine will print a handy reference chart of them.

```
100 IMAGE ### # ## # ##
# # ## # ## # ## #
110 P$=RPT$(CHR$(251)&CHR$(2
53),21) :: X=0
120 OPEN #1:"PI0" :: PRINT #
1:CHR$(27);"E"
130 PRINT #1:P$:" ASCII COD
ES FOR GEMINI SPECIAL CHARAC
TERS":P$
140 FOR J=160 TO 175 :: K=J-
X
150 PRINT #1,USING 100:K,CHR
$(J),K+16,CHR$(J+16),K+32,CH
R$(J+32),K+40,CHR$(J+40),K+6
4,CHR$(J+64),K+80,CHR$(J+80)
:: NEXT J
160 IF FLAG=1 THEN STOP ELSE
FLAG=1 :: PRINT #1:"":P$
:"TI-WRITER CODES FOR GEMINI
SPECIAL CHARACTERS":P$ :: X
=128 :: GOTO 140
```

Another one that just looks pretty - 100 !KALEIDOSPRITES by Jim Peterson 110 CALL CLEAR :: FOR CH=100 TO 120 STEP 4 :: FOR L=1 TO

```
4 :: RANDOMIZE :: X$=SEG$(
"0018243C425A667E8199A58DC3D0
E/F/F",INT(16#RND+1)*2-1,2)
120 B$=B$&X$ :: C$=X$&C$ ::
NEXT L :: CALL CHAR(C$,RPT$(
B$&C$,4)) :: B$,C$="" :: NEXT
CH :: Z=2 :: CALL SCREEN(5)
130 CALL MAGNIFY(Z) :: K=1 ::
FOR J=1 TO 7 :: S=96+4#J ::
R=16#J :: C=100#RND+20
140 IF J>5 AND Z=4 THEN T=5
:: GOTO 160
150 T=INT(15#RND+2) :: IF T=5
THEN 150
160 CALL SPRITE(0,K,S,T,R,C,0
K+1,S,T,177-R,C,#K+2,S,T,R,2
41-C,#K+3,S,T,177-R,241-C) ::
K=K+4 :: NEXT J
170 Z=INT(2#RND+1)*2 :: GOTO
130
```

100 !DISK MATCHER by Jim Peterson

```
110 DISPLAY AT(8,9)ERASE ALL
:"DISK MATCHER": : : " To c
ompare a backup disk:"with
a master and list any:"file
s found on one but not"
120 DISPLAY AT(15,1):"on the
other." : : " Press
any key"
130 CALL KEY(0,K,S) :: IF S#0
THEN 130
140 DISPLAY AT(12,1)ERASE AL
L:"INSERT MASTER - PRESS ENT
ER" :: CALL KEY(0,K,S) :: IF
S#0 THEN 140
150 OPEN #1:"DSK1.",INPUT ,R
ELATIVE,INTERNAL :: INPUT #1
:D$,A,J,K :: DIM F$(127)
160 X=X+1 :: INPUT #1:F$(X)
,A,J,B :: IF LEN(F$(X))<>0
THEN 160 ELSE CLOSE #1
170 DISPLAY AT(12,1)ERASE AL
L:"INSERT BACKUP DISK": "PR
ESS ENTER" :: CALL KEY(0,K,S
) :: IF S#0 THEN 170
180 OPEN #1:"DSK1.",INPUT ,R
ELATIVE,INTERNAL :: INPUT #1
:D2$,A,J,K :: DIM F2$(127)
190 Y=Y+1 :: INPUT #1:F2$(Y)
,A,J,B :: IF LEN(F2$(Y))<>0
THEN 190 ELSE CLOSE #1
200 DIM F(127) :: FOR J=1 TO
X :: FOR L=1 TO Y :: IF F2$(
L)=F$(J) THEN F(L)=1 :: GOTO
220
210 NEXT L :: PRINT F$(J);"
NOT ON BACKUP"
220 NEXT J
230 FOR M=1 TO Y :: IF F(M)=
0 THEN PRINT F2$(M);" NOT ON
MASTER"
240 NEXT M :: END
```

A very useful tip from Jim Swedlow, in the Orange County ROM newsletter - INPUT respects any trailing print separator on a preceding PRINT command. Try it - 100 PRINT TAB(20);: INPUT B \$

MEMORY FULL IN LINE 400 Jim Peterson

HOOSIER USERS GROUP DIRECTORY

HOOSIER USERS GROUP OFFICERS

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Vice-President.....Bill Lucid 291-3995
Secretary.....Barb Uhrig 357-8268
Treasurer.....Bill Jones

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317-631-994A

The HUGbbs operates on a 24 hour basis.

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Regional Centers:

South.....Dennis Sherfy 881-5918
West Indiana..Vic Kelson 812-234-5533

Documents.....Don Donlan 882-4544
Membership.....Pam Sims 631-7255
Newsletter.....Pam Sims 631-7255

MONTHLY MEETING LOCATION

Creative Logic
8240 Indy Lane
Indianapolis, IN 46224

(About 1800 North Country Club Road)

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The Hoosier Users is participating in a Newsletter Exchange program with other TI Users Groups. This offer is made with the understanding that, with proper credit, your Users Group can reprint articles from the Hoosier Users Group Newsletter, and with proper credit, we can reprint articles from other TI Users Groups Newsletters.

PRINTOUTS

Library listings can be ordered for \$.25 & a 4x9 self addressed envelope with \$.66 postage. The HUGbbs Reference Guide can be ordered for \$.50 and a 4x9 self addressed envelope with \$.22 postage. Please send orders to our P.O. Box. SORRY, PRINTOUTS WILL BE SENT TO ACTIVE MEMBERS ONLY!

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Back Issues purchased at the monthly meeting is \$1.00 each. Mail order price is \$1.50 per Newsletter (postage included). Orders will be filled within 3 weeks of receipt by the Documents Committee.

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There will be no charge for advertisements submitted to the HUGger Newsletter by members (for private sale only). Format for the advertisements is 45 characters wide by 10 lines long. The Ad should be typed or hand printed exactly how it is to appear in the Newsletter. Deadline for an ad to appear in next month's Newsletter is the 2nd Saturday of the month.*

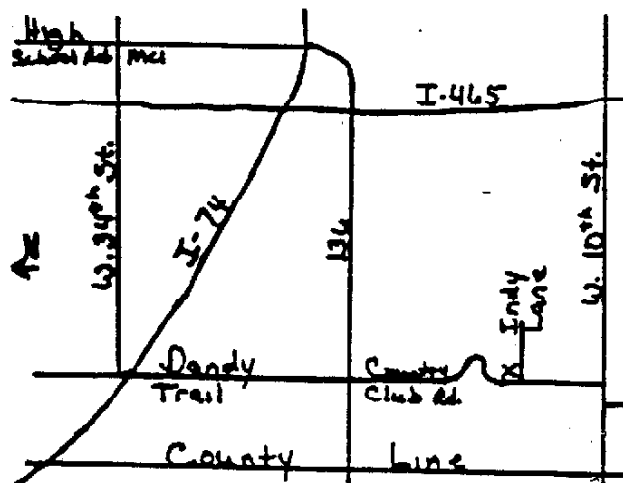
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*NOTE: The Officers of the Hoosier Users Group reserve final approval on all advertisements submitted for the HUGger Newsletter and the HUGbbs. The Officers and the Newsletter committee are not responsible for typographical errors due to illegible advertisements. All proceeds are accepted as donations to the Hoosier Users Group.

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Make check or money order payable to **Hoosier Users Group**. Send completed application to:

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