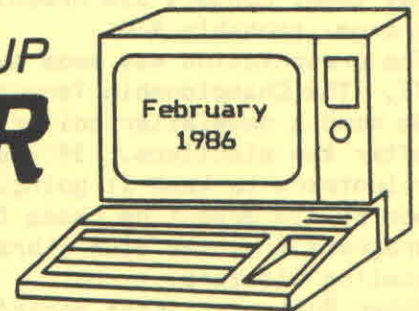


# CEDAR VALLEY 99'ER USER GROUP

# NEWSLETTER



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NEWSLETTER TOPICS

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\*\*\*\*\*

\*\*\*\*NEXT MEETING IS NOT ON A MONDAY\*\*\*\*

The March meeting will be Thursday, Mar. 6, 7:00 P.M. at the JA building, 330 Collins Road N. E. The program demonstration is going to be on a word processor and a PIO interface built by Tony May. In addition, there will be a presentation of Diskmaster I by Jim Green.

\*\*\*\*FUTURE MEETING DATES\*\*\*\*

Please mark the following dates on your calendar for future meeting dates: Mar 6 (Thursday), Apr 14, May 12, and Jun 9.

Quiz Time: Do you know how many programmers it takes to change a light bulb? Look elsewhere in this newsletter for the answer.

\*\*\*\*MINUTES FROM FEBRUARY MEETING\*\*\*\*

The February meeting was called to order by President Jim Green at 7:10 PM. Minutes as printed in the newsletter were approved. A Treasurer's report was read and approved. Elections are in March, and the Nomination Committee has yet to find anyone that will run for office. **Old Business:** The club's disk drive is fixed. The problem was a tab on the head mechanism that wore down and would not contact the microswitch when in position for track zero. Thanks to Jim Green for healing the sick system. The Forth class is going on at Jim Trainor's home. There are a few errors in the manual and in some screens in the TI Forth. **New Business:** The club has purchased 48 memory chips for the memory expansion boards. If you would like the memory and/or speech installed, contact Gary Bishop at 377-9574. It takes about 2 weeks to get to your name in the queue. We are checking on an extension cable for the side of the console to allow the P-box plug in to be positioned to the back. This will result in a much more pleasing arrangement, and will be easier on the connectors. The extension connectors are about \$10, contact Jim Green for details. Bruce Winter attended a coordination meeting for an upcoming combined flea market and ham fest. The Cedar Valley Amateur Radio Club (CVARC) will hold their first Ham/Computer fest at the 5 Seasons Center in August. The Commodore, Apple, Hawkeye PC, and TI users groups will participate. The arrangement will have a 10 by 10 foot demonstration area, a registration table at the entrance, and vendors booths on the floor. It will be a two day event, Friday 12 noon to 8 PM for commercial set-up only, Saturday flea market set-up at 6 AM with



doors open to the public from 8 to 5, Sunday 8 to 3. Admission price is not firm, but was believed to be \$8 at the door, maybe \$5 in advance. A pass would be provided to each club to be used for the person that is manning the booth for that club. It was stated we would need at least two such passes to make the operation "free" to the club. If we can't get that, the club may pay the admission for volunteers. We need volunteers to staff such a booth during the two day show, contact Jim Green. A buffet/banquet is usually held in the evening for an additional charge, probably \$10.

The presentation was made by Dave Dalton, and was several games that were never released by TI. The Championship Tennis game was very impressive, with graphics and sound effects. We need a newsletter editor. Dan Davis will no longer be able to give us his fine services after the elections. If you would like to continue to receive this newsletter, we need volunteers to keep it going. Contact any officer if you are interested. The Door prize was won by Jim Green; he chose Disk Master I. Second prize was won by Sig Schnelling, he receives 4 programs from the club library. Attendance at the meeting was down, probably due to the howling blizzard.

Other Business: Last month's door prize was won by Larry Peska, he chose a rain check until the new shipment of prizes arrived. The prizes were finally received, and Larry chose the Bit-Mac program as demonstrated at last month's meeting. Meeting adjourned at 8:20. Submitted by Gary D. Bishop, Secretary.

**\*\*\*\*FOR SALE/WANTED\*\*\*\***

For Sale: Original TI cassette recorder, mint condition, in box with original papers, cables, cassette cable, and \$65 price tag from Target. Asking \$30. Gary Bishop, 377-9574

For Sale: UltraComp stand alone box with RS-232C and parallel printer port, an Anderson-Jacobson 300 baud acoustic modem, and a connecting cable all for \$100. A Book called Introduction to Assembly Language for the TI Home Computer for \$4. Call Dan Davis @ (319) 365-6653.

**\*\*\*\*POWER SUPPLY\*\*\*\***

Whilst I was scrounging around at Radio Shack at Lindale Mall, I came across a very interesting item. It is a Coleco plug in power supply for the Adam computer, Radio Shack #277-1022. This power supply plugs right in the power socket on the wall, and has about a 4 foot connection cable. The end of the cable has the same mating connector that is presently on the back of our TI. Well, I had to see what this thing could do.

My thoughts are to completely remove the internal power supply from the console and use only this wall mounted unit. This would result in greatly reduced heating in the console, and more room for goodies to be installed. The only drawback is the off-on switch would be gone, and there isn't one on this Coleco power supply. This isn't a big problem for me because I use a plug strip with a switch and surge suppressor to run my computer. If things didn't turn out, I could always put things back the way they were, and use this plug in supply for other projects.

For you TECH WEENIES: I cut the sealed plastic case open to find out what makes this thing tick. It consists of a two linear foldback current-limited regulators with massive aluminum heat sinks for the 5 and 12 volt supplies, and a 3 terminal heat sunk 79M05 regulator for the -5 volts. The main secondary is fused, and there is thermal limiting included. The +5 volts is rated at 0.9 amp, +12 at 0.3 amp, and -5 volts at 0.1 amp. The outputs are reverse polarity protected. The regulators used are LM723 precision voltage regulators. Quite impressive for \$4.95! I have drawn the schematic out and included it (opposite this page) for those that wish to use this bargain power supply. - Gary D. Bishop







\*\*\*\*32K MEMORY EXPANSION\*\*\*\*

The memory expansion and internal speech has been installed in about 15 consoles so far. This has opened up new vistas in computing for those that have taken the plunge. We have sufficient boards and memory chips available to handle many more members. We are looking into a large scale commercial production of the memory board for other user groups. I would like to thank John Johnson and Bob Wahlstrom for their assistance in installing the expansion memories and speech. Also, small documentation errors and improvements were suggested by them. Without their help, I would be doing the installations alone, and by now, would probably be very discouraged and weary of looking at the TI. To put your name on the installation list, call Gary Bishop at 377-9574 after 5 PM. At the moment I write this, there are 4 names on the list, and it takes about 2 weeks to get to you. The cost is still \$8 for the board, \$16 for all the memory chips, and the installation is provided as a service to the club. --Gary D. Bishop

\*\*\*\*NEW C-99 LANGUAGE FOR TI99/4A\*\*\*\*

This article is reprinted from the Chicago Times U.G.:

The language is called C. C was developed in Bell Laboratories in 1969 and was an extension of the language B. C is a major computer language that is usually only available on large mini-computers and main-frames. Now C is available for us on the TI computer. This is a major feat as I know of no other lower priced microcomputer that has C! C is a compiled language which means that it is almost as fast as Assembly. C generates Assembly source code and you must then use the E/A module to Assemble it. The reason C isn't as fast as Assembly is that a machine (with limited memory such as the TI has) can't write code as efficiently as you could in Assembly. Yet C is 10 times easier to learn than Assembly. C is very close to the Basic format. Here's some equates:

<u>Basic</u>	<u>C-99</u>
CALL CLEAR	putchar (12)
REM This is a REMark	/*This is a REMark*/
PRINT	Not Currently Available
DISPLAY AT(1,1):"HELLO"	locate(1,1); puts("HELLO");
ACCEPT AT(1,1):A	locate(1,1); gets(A);
CALL KEY(O,K,S)	poll (K);
FOR I=1 TO 10	I=0 while (++(I))
IF A=0 THEN A=2	if (A==0) (A=2);

---

This is just an example. C-99 has some serious limitations at this time. You can only access DIS-VAR/BO files and many of the nice features of C are left out but are being currently worked on. The most important aspect that is left out are the VDP routines such as CALL COLOR, CALL SCREEN, etc. These are currently being worked on and should be corrected very soon!

The program below was written and run in BASIC, XBASIC, C-99, and ASSEMBLY. Note the execution time:

```
1 FOR I=65 TO 90
2 CALL HCHAR(1,1,I,768)
3 NEXT I
4 END
```

BASIC = 0:24	XBASIC = 0:23
C-99 = 0:14	ASSEMBLY = 0:05

The author has made C available under the SHAREWARE agreement and is asking \$20 donation for his hard work. Excellent Price!!! Information on how to obtain it will be coming shortly. By John Behnke of the Chicago U.G. and Dave Dalton



\*\*\*\*LOW PRICED MODEM\*\*\*\*

The last few months of the Computer Shopper has had an ad for a direct connect modem for \$18 (plus shipping) #10005. It has originate/answer, full duplex, Bell 103 compatible, 300 BAUD and comes with an AC adapter! It does not include a cable which would have to be purchased for around \$10-\$15.

The modem is available from: THE WHOLESALE OUTLET, Dept CS, 1 Interstate Avenue, Albany, NY 12205. For information call them at (518) 459-7883 or call to order at 1-800-344-4387 (Minimum order of \$25!)  
Dave Dalton

\*\*\*\*LOAD INTERRUPT SWITCH\*\*\*\*

The following is from Gary Cox--editor of the MID-South 99er U.G.:

Several programs on the market require the use of a load interrupt switch in order to operate. Screen Dump (in our library) by Danny Michael is one of these programs. These programs are loaded into low 32K memory from where they are executed by pressing the load interrupt switch. For example, the Screen Dump is first loaded into memory then you can place a cartridge in the computer and when you press the load interrupt switch the other program is executed which in this case - it dumps all the graphics on the screen to a printer. You can buy this switch from CorComp for about \$12. Ed Hayek is the only person that I am aware of that has the load interrupt switch and we were going to do a demonstration of it at the February meeting but did not have a printer, so he showed us some of the Cartridge Screen Dumps with the Danny Michael shareware program. You can buy it or make your own using the following instructions:

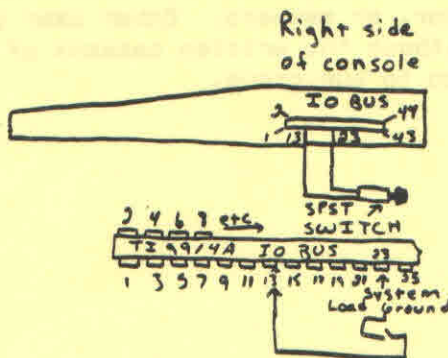
Have someone competent with computers and electronics (Gary Bishop ?) wire this if you want to use it and don't want to do it yourself. Carefully count the pins when making the connections. TRIPLE CHECK YOUR WORK!!!!!! The switch and its connections may be placed anywhere on the IO bus. (Inside the console, PEB or speech synthesizer as we have done with the memory expansion!) The speech synthesizer is the most convenient and the switch can be glued down or mounted under the cover that tilts up and away from small children and other accidental use. (If you are going to have memory expansion and speech inside your computer, then save your speech synthesizer box if you want to put your load interrupt switch in there.)

The best to use is a microswitch such as Radio Shack #275-016. However, for console mounting a push button switch of high quality will do. MAKE SURE YOU GET THE SWITCH WITH NORMALLY OPEN CONTACTS!! Use of the switch when a program that used it is not loaded into memory will lock up the computer in which case you will have to reset.... However, you install this switch AT YOUR OWN RISK!... Refer to the TI 99/4A Technical Data Manual for further details if desired. The schematic for the load interrupt switch is on another page.

-Gary Cox, MID SOUTH 99er U.G. and Dave Dalton (See drawing below for the Load Interrupt Switch Schematic)

LOAD INTERRUPT SWITCH Schematic

By Gary Cox





**\*\*\*\*CARTRIDGE COPY TO DISK\*\*\*\***

For those of you who have a disk system, 32K memory expansion, and a Navarone widget cartridge expander, Dave Dalton can give you information on how to copy a cartridge to disk. Contact him at the next meeting or at 377-1715.

**\*\*\*\*NEW OFFICERS AND DOOR PRIZES\*\*\*\***

At the March meeting, we will be electing new officers for the next year. Our current officers - Jim Green - President, Bruce Winter - Vice President, Gary Bishop - Secretary, and Ed Hayek - Treasurer have done a great job this past year. We as a group owe them a great deal of thanks! These same four people have volunteered to run for the same offices next year (this is partly because no one else would express an interest). Before we have the actual vote at the March meeting, nominations will be opened up from the floor. Will you please consider running for an office? In addition to the elected officers, we have others who have served the group and should be recognized for their fine service this past year. They are: Dave Dalton - Program Chairman, Paul Mortensen - Publicity Chairman, Jim Trainor - Education Chairman, and yours truly, Dan Davis as newsletter editor.

You can't win a door prize if you don't attend a meeting! Your officers have gone out of their way to bring you great incentives for attending the monthly meetings. The following is a selection of door prizes available for the lucky drawing winners. Give yourself a chance - come to the March 6 meeting:

....BIT-MAC....EARLY LEARNING FUN....99 WRITER II....AIRLINE (game)....TE II....4A/TALK....PERSONAL RECORD KEEPING....TIGERCUB NUTS & BOLTS....and a NAVARONE WIDGET CARTRIDGE EXPANDER.

**\*\*\*\*RETIREMENT OF NEWSLETTER EDITOR\*\*\*\***

I am sorry to say that your newsletter editor is tired and is retiring after next month's newsletter. I hope the next newsletter will not be the last for the club. Someone must volunteer for the position. It is your chance to learn about the news before it is published! Won't YOU consider doing the job for awhile. If not, you may no longer have a newsletter.

Answer to quiz on page one: None, that is a hardware problem!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

**\*\*\*\*NEED PARTS?\*\*\*\***

If you need any parts for your TI and don't know where to get them, call this number (806) 762-7457. The address is: Dealer Parts Dept., P.O. Box 53, Lubbock, TX 79408.

**\*\*\*REM\*\*\***

The CEDAR VALLEY 99'er USER'S GROUP NEWSLETTER is published by the Cedar Valley 99'er User's Group in the Cedar Rapids/Marion, Iowa area. Members are encouraged to contribute articles. Opinions expressed are those of the writer and not necessarily those of the Cedar Valley 99'er User's Group, its Officers, editor, or members. Other user groups may copy or use any article published in this newsletter, without the written consent of the CEDAR VALLEY 99'er USER'S GROUP, as long as credit is given to our group.



The following program may drive you crazy. It requires Extended Basic and a joystick. The object is very simple: try to align four colored blocks.

```

1 REM INSANITY BY G. MINEO
5 REM WESTMEGO. LA
15 CALL CLEAR
20 DISPLAY AT(12.1):"INSANITY"
25 DISPLAY AT(15.1):"LIKE THE
NAME SAYS. USE YOUR"
30 DISPLAY AT(17.1):"JOY STICKS
TO PUT 'EM LIKE"
35 DISPLAY AT(19.1):"YOU FOUND
'EM. GOOD LUCK!"
40 DISPALT AT(23.1):"PRESS ANY
KEY TO BEGIN"
45 CALL KEY(O,K,S):: IF S=0 THEN 13
50 CALL CHAR(42,"FFFFFFFFFFFF
FFF")
55 CALL MAGNIFY(2)
60 CALL CLEAR
65 DISPLAY AT(1.12):"INSANITY"
70 CALL SPRITE(#1,42,5,96,128)
75 CALL SPRITE(#2,42,9,112,128)
80 CALL SPRITE(#3,42,11,80,128)
85 CALL SPRITE(#4,42,16,128,128)
90 CALL JOYST(1,Y,X)
95 CALL MOTION(#2,-20*X,20*Y)
100 CALL MOTION(#1,-20*X,20*Y)
105 CALL MOTION(#3,-20*X,20*Y)
110 CALL MOTION(#4,-20*X,20*Y)
115 GOTO 90
120 REM IT CAN BE DONE!
125 REM REPRINTED FROM SAN FRAN-
CISCO 99ERS NEWSLETTER

```

```

250 DATA 11.2,96,6,11,8,104,6,11,14
,112,6,11,20,120,6,11,26,128,6
260 DATA 12,2,96,6,12,8,104,6,12,14
,112,6,12,20,120,6,12,26,128,6
270 DATA 13,2,96,6,13,8,104,6,13,14
,112,6,13,20,120,6,13,26,128,6
280 FOR I=1 TO 20
290 READ A,B,C,D
300 CALL HCHAR(A,B,C,D)
310 NEXT I
320 CALL SCREEN(5)
330 FOR I=9 TO 13
340 CALL COLOR(I,2,1)
350 NEXT I
360 INPUT"SPEED?":S
370 CALL HCHAR(23.1,32,32)
380 CALL SCREEN(2)
390 CALL COLOR(9,9,1)
400 CALL SOUND(S,330,0,330,5,0)
410 CALL COLOR(9,2,1)
420 CALL COLOR(10,12,1)
430 CALL SOUND(S,370,0,370,5,0)
440 CALL COLOR(10,2,1)
450 CALL COLOR(11,14,1)
460 CALL SOUND(S,294,0,294,5,0)
470 CALL COLOR(11,2,1)
480 CALL COLOR(12,16,1)
490 CALL SOUND(S,147,0,147,5,0)
500 CALL COLOR(12,2,1)
510 CALL COLOR(13,6,1)
520 CALL SOUND(S,220,0,220,5,0)
530 CALL COLOR(13,2,1)
540 S=S-25
550 IF S<1 THEN 320
560 GOTO 390

```

\*\*\*\*\*

.. From the LA 99ers ..

```

100 FOR I=96 TO 128 STEP 8
110 CALL CHAR(I,"FFFFFFFFFFFF")
120 NEXT I
130 CALL CLEAR
140 CALL SCREEN(2)
150 REM *****
160 REM
170 PRINT " FLYING SAUCER MUSIC": :
: : : : : : : : : : : : : : : :
180 REM BY BRETT PIJAN
190 REM REPRINTED FROM COMPUTERBASE
200 REM REPROGRAMMED BY CHICK
DE MARTI
210 REM
220 REM *****
230 RESTORE
240 DATA 10,2,96,6,10,8,104,6,10,14,
112,6,10,20,120,6,10,26,128,6

```

\*\*\*\*\*

```

100 ! *****
110 ! * SCROLL DOWN *
120 ! *****
130 CALL INIT
140 CALL LOAD(8196.63.248)
150 CALL LOAD(16376.83.67.82.76.68,
78,48,0)
160 CALL LOAD(12288.2.224.131.224.4
,192,2,1,37,20,2,2,224,4,32,32,44)
170 CALL LOAD(12306.2,1,36,244,2,2,
3,0,4,32,32,36,4,91)
180 FOR C=9460 TO 9492 :: CALL LOAD
(C,128)::NEXT C
190 !.....
195 ! ** PROGRAM TEST **
200 CALL CLEAR
210 PRINT "* TEST *"
220 FOR UP=1 TO 20 :: PRINT :: NEXT
UP
230 FOR DOWN=1 TO 20 :: CALL LINK("
SCRLDN"):: NEXT DOWN
240 GOTO 220

```



TIPS FROM THE TIGERCUB

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156 Collingwood Ave.  
Columbus, OH 43213

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Over 130 original programs in Basic and Extended Basic, available on cassette or disk, only \$3.00 each plus \$1.50 per order for PPM. Entertainment, education, programmer's utilities. Descriptive catalog \$1.00, deductible from your first order.

Tips from The Tigercub, a full disk containing the complete contents of this newsletter Nos. 1 through 14, 50 original programs and files, just \$15 postpaid.

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postpaid, or both Nuts Bolts disks for \$37 postpaid.

Tigercub Full Disk Collections, just \$12 postpaid! Each of these contains either 5 or 6 of my regular \$3 catalog programs, and the remaining disk space has been filled with some of the best public domain programs of the same category. I am NOT selling public domain programs - my own programs on these disks are greatly discounted from their usual price, and the public domain is a FREE bonus!

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For descriptions of these send a dollar for my catalog!

I goofed again! if you tried the Quickloader in Tips #29 with a disk containing more than 20 programs, you may have already noticed that line 140 should go to 160, not 155.

Here's another Tigercub Challenge - can you run this and get these results?

```
>LIST
100 PRINT PI
110 PRINT MAX
120 PRINT PI
130 PRINT MAX
>RUN
0
0
3.141592654
```

■ SYNTAX ERROR IN 130

Some of you sharp-eyed newsletter editors may have noticed that this text is being hyphenated to avoid some of those gaping blanks that occur when only a few long words will fit on a right-justified line. The only way that I have found to accomplish this is to set the TI-Writer right tab for the actual column width to be printed and then, whenever a word is hyphenated, backspace and replace the blanks on that line with carets, adding enough extra carets to justify the line - like this -

whenever^a^word^is^hyphen-

It helps to go into fixed mode with CTRL 0 when you are inserting extra carets.

When using this method, it is also necessary to set the paragraph indentation with IN 0 on the command line; if indentations are desired, they can be filled with caret signs, like this:

^^When using this method,

I am told that my old 3D Sprite Routine made it to the Golden Quickies section of CompuServe, so here is an updated version. I have found that sprites can be controlled much more easily (although not moved as rapidly) with CALL LOCATE, rather than turning them loose with CALL MOTION and then trying to catch up with them!

```
100 CALL CLEAR :: CALL SCREE
N(5):: FOR SET=2 TO 8 :: CAL
L COLOR(SET,8,5):: NEXT SET
:: DISPLAY AT(3,12):"3-D SPR
ITE DEMO"
110 DISPLAY AT(22,1):"BY TIG
ERCUB" :: CALL CHAR(40,"FFB1
B1B1B1B1FFB1B1B1B1B1B1FF
FFB1B1B1B1B1B1FFB1B1B1B1
B1FF")
120 CALL CHAR(36,RPT$( "F",64
)): CALL MAGNIFY(4):: FOR X
```

```
=2 TO 22 STEP 2 :: CALL SPRI
TE(X,36,X/2+1-(X>7)-(X>13),
32+X*6,40+X*6):: NEXT X
130 S=1 :: CALL SPRITE(0S,40
,16,46,7):: FOR C=6 TO 42 ST
EP 2 :: CALL LOCATE(0S,46,C)
:: NEXT C :: FC=44 :: FR=46
:: Y=0
140 FOR C=FC TO FC+44 STEP 2
:: CALL LOCATE(0S,FR,C):: N
EXT C :: FC=FC+44 :: CALL SP
RITE(0S+2,40,16,FR,FC):: CAL
L DELSPRITE(0S):: TC=FC-32
150 FOR C=FC TO TC STEP -2 :
: CALL LOCATE(0S+2,FR,C):: N
EXT C :: TR=FR+34 :: FOR R=F
R TO TR STEP 2 :: CALL LOCAT
E(0S+2,R,TC):: NEXT R
160 CALL SPRITE(0S,40,16,TR,
TC):: CALL DELSPRITE(0S+2)::
FR=TR :: TR=FR-72 :: FOR R=
FR TO TR STEP -2 :: CALL LOC
ATE(0S,R,TC):: NEXT R
170 CALL SPRITE(0S+2,40,16,T
R,TC):: CALL DELSPRITE(0S)::
FR=TR :: TR=FR+50 :: FOR R=
FR TO TR STEP 2 :: CALL LOCA
TE(0S+2,R,TC):: NEXT R
180 Y=Y+1 :: IF Y=11 THEN CA
LL DELSPRITE(0S+2):: GOTO 13
0 ELSE S=S+2 :: FC=TC :: FR=
TR :: GOTO 140
```

Ian Swales in Belgium can write some of the most intricate routines, and pull them into the tightest knot. I had searched everywhere for a sorting routine for 2-dimensional arrays, and invented some ridiculous ones, before Ian sent me this jewel.

100 !DEMO of two-dimensional sorting routine

110 !Set up array to be sorted

```
120 CALL CLEAR :: DIM A$(20,
4):: RANDOMIZE :: DEF X%=CHR
$(26+RND*65)
```

```
130 FOR J=1 TO 20 :: A$(J,1)
=X%&X%&X% :: A$(J,2)=STR$(IN
T(100*RND+1)): A$(J,3)=X%&ST
R$(INT(10*RND)): A$(J,4)=IN
T(10*RND))&X% :: NEXT J
```

```
140 INPUT "SORT BY?(1-4)":K
150 J=20 !2-dimensional arra
y sorting routine by Ian Swa
les
```



```

160 DIM Q(20):: FOR X=1 TO 2
9 :: Q(X)=X :: NEXT X
170 M=0
180 FOR X=1 TO J-1 :: IF A$(
Q(X),K)<=A$(Q(X+1),K)THEN 21
0
190 M=-1
200 T=Q(X):: Q(X)=Q(X+1):: Q
(X+1)=T
210 NEXT X
220 IF M THEN 170
230 FOR X=1 TO 20 :: FOR L=1
TO 4 :: PRINT A$(Q(X),L);"
";: NEXT L :: PRINT :: NEXT
X :: GOTO 140

```

Did you ever need a routine that would accept either a string or a numeric value? Try this -

```

100 M=0 :: ON ERROR 110 :: A
CCEPT M% :: N=VAL(M%): GOTO
120
110 ON ERROR STOP :: RETURN
120
120 ON (M=0)+2 GOTO 130,140
130 PRINT M% :: GOTO 100
140 PRINT N :: GOTO 100

```

A useful tip from Stephen Shaw in England - if you have a long program which will run only in Basic, and which will load from disk with CALL FILES(1) but runs out of memory when you try to run it; and if you have the MiniMemory module -

Insert MiniMemory module, select Basic, enter CALL FILES(1), Enter NEW, enter OLD DSK1.(filename). When loaded, enter SAVE EXPNEM2. When SAVED, enter CALL LOAD(-31888,63,255), enter NEW, enter OLD EXPNEM2, and enter RUN. That is still a lot faster than loading a long program from tape!

Another reason for never using the default mode of so-called UPDATE when opening a file (without specifying INPUT or OUTPUT) is that you will get an I/O ERROR #1 if the file is write-protected.

Has anyone found a way to go from Extended Basic to Basic without losing the program in memory, or at least fouling it up? CALL LOAD(-32116,4) has been published in many newsletters as a way to do this, but has anyone actually made it work?

If you are printing out of TI-Writer Editor, finish your letter with CTRL U, SHIFT L, CTRL U and when it is printed the paper will automatically feed to the top of the next sheet.

To make a note to yourself while programming, just type ! and whatever you want to make note of, then LIST "PIO":1, and then type 1 and enter to delete the line.

TI-Writer puts an extra space after every period that is followed by a space. If you don't want this extra space after abbreviations such as "Mr." or "St.", use a caret sign ^ instead of a space after the period, Mr.^Jones. But TI-Writer puts only one space after ? or ! so if you want two, put a caret after the symbol !^

One of the very best tips for this month comes from Paul A. Meadows, in the September 85 newsletter of T.I.N.S. (Nova Scotia, Canada) -

How to print up to 132 characters in a line (condensed print, of course) out of TI-Writer! Just prepare your file as usual but in line 9991 put formatter commands such as .LM 18;RM 132; IN +5;FI;AD. The Fill and Adjust are necessary, the Indent is up to you, as are the left and right margins - but notice that right margin set way over at 132? Now, instead of saving the

file with SF, type PF and then C DSK1.(filename) to print to the disk. This not only strips out the control C characters, it also erases the TI-Writer tab line that was applied to the last line of the file.

So now, with your printer opened and initialized for condensed print, go into the TI-Writer formatter mode and print your file!

I have made the following changes to my working copy of the Tigercub Menuloader. This sets up my Gemini printer to skip over the perforations and print full page width in elite print with a wide left margin for ring-binder punching. Other printers may need changes in these codes.

```

620 DISPLAY AT(12,1)ERASE AL
L:"PRINTER? PIO" :: ACCEPT A
T(12,1)SIZE(-18):P% :: GOSU
B 895 :: PP=3
840 DISPLAY AT(24,1):"PRINTE
R NAME? PIO" :: ACCEPT AT(24
,15)SIZE(-14):PP% :: GOSUB 8
95 :: PRINT #2;SEG$(D$,1,4)&
" - Diskname="&M%
895 OPEN #3:P%,VARIABLE 132
:: PRINT #3;CHR$(27);"B";CHR
$(2);CHR$(27);"M";CHR$(18);C
HR$(27);"N";CHR$(6):: RETURN

```

I always keep a backup of everything, on the flipped side of another disk, and I often want to verify that the backup has everything that is on the master, and vice versa.

```

100 DISPLAY AT(3,6)ERASE ALL
:"TIGERCUB DOUBLECAT": : To
compare the contents of: :
"a disk with a backup." !by
Jim Peterson
110 DISPLAY AT(12,1):"INSERT
MASTER DISK": : "PRESS ENTER
"
120 CALL KEY$(K,S):: IF S=0
THEN 120
130 DATA DF,DV,IF,IV,P
140 RESTORE :: FOR I=1 TO 5
:: READ T$(I):: NEXT I
150 DIM F$(127):: OPEN #1:"D

```

```

SK1.",INPUT,RELATIVE,INTER
AL :: INPUT #1:A$,J,J,K :: F
$(A$)=A$&" "&STR$(K)
160 X=X+1 :: INPUT #1:F$(X),
I,J,K :: IF F$(X)="" THEN 17
0 :: F$(X)=F$(X)&" "&T$(ABS(
I)):: GOTO 160

```

```

170 X=X-1 :: CLOSE #1 :: DIS
PLAY AT(12,1)ERASE ALL:"REMO
VE MASTER DISK": : "INSERT BA
CKUP DISK": : "PRESS ENTER"
180 CALL KEY$(K,S):: IF S=0
THEN 180

```

```

190 OPEN #1:"DSK1.",INPUT,R
ELATIVE,INTERNAL :: INPUT #1
:A$,J,J,K :: DISPLAY AT(1,1)
ERASE ALL:F$(0):: DISPLAY A
T(1,15):A$&" "&STR$(K);
200 Y=Y+1 :: R=R+1 :: GOSUB
290 :: INPUT #1:A$,I,J,K ::
IF A$="" THEN 260 :: K=A$&"
"&T$(ABS(I))

```

```

210 IF K=F$(Y)THEN DISPLAY
AT(R+1,1):F$(Y):: DISPLAY A
T(R+1,15):K%:: GOTO 250
220 IF K<F$(Y)THEN DISPLAY
AT(R+1,15):K%:: Y=Y-1 :: GO
TO 250

```

```

230 DISPLAY AT(R+1,1):F$(Y);
:: R=R+1 :: GOSUB 290 :: Y=Y
+1

```

```

240 IF K=F$(Y)THEN 210 ELSE
IF K<F$(Y)THEN 220 ELSE IF
Y<X THEN 230 ELSE DISPLAY A
T(R,15):K%;
250 GOTO 200

```

```

260 IF Y>X THEN 280
270 R=R+1 :: GOSUB 290 :: FO
R J=Y TO X :: DISPLAY AT(R,1
):F$(J):: R=R+1 :: GOSUB 290
:: NEXT J

```

```

280 DISPLAY AT(24,1):" P
RESS ANY KEY" :: CALL KEY$(K,S):: IF S=0 THEN 280 ELSE
CLOSE #1 :: END

```

```

290 IF R<23 THEN RETURN
300 DISPLAY AT(24,1):"PRESS
ANY KEY" :: DISPLAY AT(24,1)
:" " :: CALL KEY$(K,S):: IF
S=0 THEN 300
310 CALL CLEAR :: R=1 :: RET
URN

```

And that is just about

MEMORY FULL!

Jim Peterson



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