

Puget Sound Jan 86



PUGET SOUND 99ERS
PO BOX 6073
LYNNWOOD, WA 98036

JANUARY 85/86

Vol. 5 No. 01

OFFICERS

PRESIDENT: KEITH MIFFILN	821-1047	VICE PRESIDENT: CHUCK WYNNE	745-3249
SECRETARY: PHIL JORDAN	283-0953	TREASURER: RON STONE	481-1412
NEWSLETTER EDITOR: RALPH DEVIN	783-2807	LIBRARIAN: JOHN UELAND	672-7593

NEXT MEETING

DATE: THURSDAY, January 23, 1986 TIME: 7:00 PM
PLACE: Shoreline Public Library, 345 NE 175th, Seattle

- | | | |
|---------|-----------------------------------|------------------------------|
| AGENDA: | * Demo of new Canon printer | * Nomination of officers |
| | * Demo of new freeware program(s) | * SIG group reports |
| | * Tips and news from Chuck | * General discussion session |

FEBRUARY MEETING

DATE: WEDNESDAY, February 26, 1986
TIME: 7:00 PM
PLACE: Bellevue Public Library
11501 Main St., Bellevue

MARCH MEETING

DATE:
TIME:
PLACE:

NOT SCHEDULED
YET

DECEMBER MINUTES

by Ralph Devin

We started a little late, waiting for a bit to see if there would be some late comers due to the meeting being on Wednesday. About 40 people showed up, a pretty good turnout.

After opening remarks, we had Barbara Weiderhold come up and make a few comments. She discussed the Myarc/CorComp situation and communicated her excitement over the expanding horizons of TI-99/4A computing. We are glad to have retailers like Barbara that are committed to supporting our computer.

The main event of the evening was the continuing search for "THE FEW, THE PROUD, THE NEW CLUB OFFICERS...!!!" Anyway, we finally got a few people to volunteer their time and efforts and now have at least one nominee for each position. The nominations, as they stand are:

PRESIDENT: Chuck Wynne
 VICE PRES: Rick Lewis
 TREASURER: Dennis Wood
 SECRETARY: George Sjaastad
 LIBRARIAN: John Ueland
 NEWSLETTER EDITOR: Gene Christiansen

Nominations will be accepted through the January meeting, after which we will send out a ballot. (Unless no more nominations are made) New officers will take office at the February meeting.

There was concern over the issue of having the System operator of the BBS be a non-elected office. There may have to be a change in the by-laws to support this position.

Chuck demoed the freeware program PR-Base a little more, showing everyone the powerful programs that are coming up the pike as freeware. Maybe he will demo another new one like Mass Transfer at the next meeting.

We might have the new GRAM-Kracker to demo at the next meeting.

Mention was made of the good prices on diskettes at PriceSavers, and the \$75 bargain on Control Data 1/2 Height Double-sided, Double-density drives at the Cash-n-Carry Computer Store in Bellevue. If you see low prices on computer supplies and equipment. Let us know. Rich Martin mentioned that Jafco in Lynnwood is selling the Volksmodem for about \$40, another great buy.

Well, That is about it for now. See you at the next meeting!!

PINOUT FOR VOLKSMODEMS

by Ralph Devin

If you want to get into telecommunications cheaply, the Volksmodem for about \$40 at Jafco is a great little unit. It is the modem that we are using on the club bulletin board. To hook it up to your computer you will need to make a cable, with the standard RS-232 connector on one end and a 5-pin DIN plug on the other. We found that if you need the computer to detect carrier lost some of the pins on the RS-232 side need to be jumped. These are the pin connections we used.

	DIN -----	RS-232 -----
Transmit(Computer to Modem)	1	3
Ground	2	7
Received Data	3	2
Data Carrier Detect	4	5,8,20
Data Set Ready	5	5,8,20

On the 5-pin DIN plug, the pins are not numbered consecutively. Looking at the plug from the socket side, the pins go, left to right, 3-5-2-4-1. This can be confusing. Note that we have jumped 4 and 5 on the DIN side together and 5, 8 and 20 together on the RS-232 side. This combines the "Clear-To-Send", "Data-Carrier-Detect", and "Data-Terminal-Ready" leads on the computer side to the "Data-Carrier-Detect" and "Data-Set-Ready" leads on the modem side. It might not be completely correct, Possibly 5 on the DIN should be just to 20 on the RS-232, but this is what worked on the bulletin board. Happy Soldering!!!!

BOOK REVIEW:by Barbara Wiederhold(January 28, 1986)

Rumor has it that "The Rumors are True!!!". "The Orphan Chronicles", by Ronald G. Albright Jr., M.D., has just about everything you've heard, seen, or thought happened to the Texas Instruments 99/4A, since 1983.

It isn't just "name-dropping," when Dr. Albright refers to the many, oh so many people involved in the Texas Instruments "Soap Opera." By reference, he mentions the many Supervisors involved in the major decision-making concerning Sales and Development strategy behind the creation of the 99/4, and later, the 99/4A.

This book is not the usual program-type publication, but once you start reading "The Orphan Chronicles," published by Millers Graphics, it will be very hard to put it down.

The book covers, "One Computer's Sad Story; When the Smoke Cleared, Commercial Users Groups(utilizing the sale of software and hardware, along with computer support/information), The Real Users Groups, Telecommunications(a must section to utilize as reference), Where to get Support, Publications available to the 99/4A, Freeware(a partial library), What the Future May hold (reference is made to the soon-to-be-released-we-all-pray, around the end of March, 1986, Myarc Computer), and a Survival Manual.

Distributors of TI 99/4A products are listed, and of course, most importantly, the Dealers, who work directly with you and sell the items, you read about, to you....

I was pleased to see our company name in this publication. However, we have since changed our name, so you will see us listed under Security Business Machines, Inc. and maybe by the next publication, our NEW NAME will appear, i.e., Queen Anne Computer Shoppe, 6 1/2 Boston St., #4, Seattle, Washington 98109, phone number:(206)283-8953

The Orphan Chronicles can be purchased through your local dealer, here in Seattle, or if you read this article outside the State of Washington, contact Craig and Sue Miller, at their Company address of: MILLERS GRAPHICS, 1475 W. Cypress Avenue, San Dimas, California 91773(\$9.95).

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THANK YOU FOR YOUR LOCAL DEALER SUPPORT
.....

We used to really gear up for the Christmas Rush...Last year was no exception. Two years have passed since the big \$49.95 Sale, of the TI 99/4A. You'd think things would quiet down, but they haven't!!! More and more people are seeking out, and most importantly, finding Dealers. Statistics today indicate over 365 Dealers across the U.S. and more signing up daily. As the word gets out that there really are active TI purchasers out there, the interest and support just mushrooms. We have more software and hardware being developed today than anyone would ever imagine. Look closely at the console, whether black/silver, or beige, the facts remain the same, the 99/4A is being up-graded. Double-Sided, Double-Density Drives(2) are being installed inside the P.E. Box, Drives #3 and #4 are being installed in an outside power supply since Cor Comp and Myarc came through with their Double-Sided, Double-Density Disk Controller Cards, support four(4) Drives. We have all types of telephone modems, printers and monitors available, and calls come in daily from new people looking for word processing. Children are growing in leaps and bounds and need serious tools for school projects. We have the best graphics packages available, and over 3000 programs already produced for this computer. No wonder dealers are always so cheerful and helpful. TI99/4A users are of the utmost in enthusiasm and never cease to share their excitement over the computer with others. So, our dealer locations are places to gather, share information, and gain new knowledge in the process. Our telephones link up with user group members all over the Greater Seattle area and all are eager and willing to help at the drop of a hat. So, again, thank you all who have supported us, some out of the State of Washington, especially our friends so dear and near in Canada. 1985 was a good year for us all, and 1986, with so much new software and hardware heading our way, we are sure to have much more success. Come in for a demonstration of the new Myarc 128K/512K Card, Disk Controller Cards, Myarc Personality Card to run HARD DISK DRIVES, and one of our customers created a Light Pen, cost to you \$12.00. Also, Mr. Hoover is helping us here in Seattle with a 1985 Tax Disk, Multiplan is required, cost \$10.00. NEW ARRIVAL, the GRAM KRACKER, by Miller Graphics...seeing, is believing.... Keep in touch, so we can keep in touch. Barbara Wiederhold/Phillip Jordan

.....

The New MYARC Computer-Mike Allen

For the last 2 years Myarc has promised to release a new computer based on the TI. Recently I was told that Myarc started shipment but I was rather skeptical as to whether the computer really does exist. Well the answer I found was yes. Barb of the "Queen Anne Computer Shoppe" made a few calls and told me that Myarc plans to start shipment some time in March. Here is a little information on the new computer;

It comes with 256K CPU memory, has 64K of VDP and 64K ROM. It even has a port to hook up a mouse. You are left with about 240K for your programs after power up.

This computer doesn't use a 9900 microprocessor. It uses a newer version called TMS9995. The 9995 is 2.3 times faster than the 9900. The programs you have now for you TI are about 99% compatible with the new computer. The only problem is that because the new computer has more keys a different keyboard scan (KSCAN) has to be used. There are a few draw backs to this new computer though, first of all there is no speech port. Myarc plans to come out with a card like the triple- tech card so you can put the speech synthesizer inside the P.E. box. Also, if you are one of the proud owners of a P-CODE CARD you can kiss it good- by. Because of technical considerations they weren't able to accomodate it. Another problem is that you will have to get a new FLEX CABLE card for your P.E. box. The new card however will be alot better since you can move the console around, and it has a built in clock with time and date. You may have to get a new Disk Controller card from Myarc and it will be introduced at the same time as the computer. This card does have it's advantages however, because it will support QUAD density disks. That will give you about 1 megabyte on one floppy disk.

The new computer has alot better graphics. It will have 512 colors instead of 16, there are 768 predefined graphic patterns to choose from, and it has a high resolution. It will allow record lengths up to 4096 instead of 255 on the 99/4A. The computer comes with Myarc's Extended basic II (Myarc's creation) which is supposed to be 2 to 4 times faster than our XB. (That version is also available for the 99/4A.) Myarc is even planning to work on a card that will allow for IBM compatibilty. I was told that it will be selling for....get this..around \$500. Of course I won't believe it until I see it. I would like to thank Barb Wiederhold and Chuck Wynne for supplying information for this article. I also must thank J. Peter Hoodie of the Boston Computer Society for the technical data represented here.

Mike Allen
Puget Sound 99ers

PASCAL Printer selector-Kenneth Crandall

This is a PASCAL program to change the printer type style. I had a difficult time learning how to do this so I thought others might also have the same problem.

```
PROGRAM PNTSET(INPUT,OUTPUT,PNTOUT);
  (This program will change the printer output format in accordance with user
  selected options. The output is controlled by the series of characters
  following "PNTOUT", in the WRITELN statement of the "IF" select routine. For
  compressed mode, the line spacing is also changed)

VAR
  A : CHAR;
  ST : STRING ;
  PNTOUT : TEXT ;
  BYPASS : BOOLEAN ;
  N,N1,BASE : INTEGER ;
```

```

BEGIN
  REWRITE (PNTOUT,'PRINTER:'); { Enables runtime printer output. }
  BYPASS := FALSE;
  WRITELN (' To select desired format type in ');
  WRITELN (' any of the following : ELITE, PICA, ');
  WRITELN (' COMPressed, or PROPortional and ');
  WRITELN (' then press "ENTER". ');
  READLN ( ST );

  WRITE(PNTOUT,CHR(27),CHR(64)) ; { Resets printer to std. options. }

  IF ST = 'ELIT'
  THEN
    BASE := 1
  ELSE
    IF ST = 'PROP'
    THEN
      BEGIN
        WRITELN( PNTOUT,CHR(27),CHR(112),CHR(49) ) ;
        BYPASS := TRUE
      END
    ELSE
      IF ST = 'COMP'
      THEN
        BEGIN
          BASE := 4 ;
          WRITE( PNTOUT,CHR(27),CHR(48) ) { Sets 1/8 inch spacing. }
        END
      ELSE
        BASE := 0 ;
  IF NOT BYPASS
  THEN
    BEGIN
      WRITELN (' Do you want "EXPANDED" mode? Enter Y or N.' ) ;
      READLN ( A ) ;
      IF A = 'Y'
      THEN
        BASE := BASE + 32
      END ;
  IF NOT BYPASS
  THEN
    BEGIN
      WRITELN( 'Select type weight. Type SINGLE, ' ) ;
      WRITELN( 'EMPHAsized, DOUBle, or LETTER ' ) ;
      WRITELN( 'quality and press "ENTER". ' ) ;
      READLN ( ST );
      IF ST = 'EMPH'
      THEN
        N1 := 8
      ELSE
        IF ST = 'DOUB'
        THEN
          N1 := 16
        ELSE
          IF ST = 'LETT'
          THEN
            N1 := 24
          ELSE
            N1 := 0
        END;
  IF NOT BYPASS
  THEN
    BEGIN
      N := BASE + N1 ;
      WRITELN ( PNTOUT,CHR(27),CHR(33),CHR(N) )
    END
  END.

```

Written by Kenneth Crandall
 PUGET SOUND 99ERS

BASIC Printer Typewriter-Tom Wynne

This program will turn your printer into a typewriter. When you press a key, the printer will print it on the paper. You may change the printer name in line 200 to your configuration but you must include a ".LF" to cancel the line feeds.

```

100 ! *****
110 ! * PRINTER>TYPEWRITER *
120 ! * BY TOM WYNNE *
130 ! *****
140 !
150 CALL CLEAR
160 PRINT "TYPEWRITER PROGRAM"
170 PRINT : "TURNS YOUR PRINTER INTO A": "TYPEWRITER."
180 PRINT : "START TYPING:"
190 C=1
200 OPEN #1: "PIO.LF"
210 CALL KEY(0,K,S):: IF S=0 THEN 210
220 IF K=13 THEN C=1 :: PRINT :: PRINT #1:CHR$(10);CHR$(13):: GOTO 210
230 IF K=136 THEN C=C-1 :: IF C=0 THEN C=1 :: GOTO 210 ELSE 210
240 PRINT #1:TAB(C);CHR$(K):: PRINT CHR$(K):: C=C+1 :: IF C=81 THEN C=1 :: PRINT #1:CHR$(10);CHR$(13):: PRINT
250 GOTO 210
    
```

Forth Interest Group-Tom Wynne

The next Forth meeting will be on the Saturday right after the meeting- Saturday, January 25 and they will still proceed every other Saturday. We will still meet at 4:00 at:

Queen Anne Computer Shoppe
 6 1/2 Boston #4 (upstairs)
 Seattle, WA 98109

Please call me at 745-3249 or call Barbara at 283-0953.

TI 99/9A HARDWARE

80K GRAM KRACKER	\$ 189.00
CANON 1080A PRINTER 160 CPS, NLD, QUIET	\$ 250.00
MYARC 128K CARD	\$ 180.00
LESS TRADE IN:	\$ 60.00
MYARC/CORCOMP DISK CONTROLLER CARD	\$ 169.95
LESS TRADE IN:	\$ 60.00

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 SEATTLE, WASHINGTON 98109
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A TIP OF THE HAT
 TO THOSE WHO
 FIXED OUR FEET FOR
 DRIVING OUR COPIERS
 NEWSLETTER TO MAKE THIS
 POSSIBLE. THANKS ED!

HIS BBS NUMBER:
 641-5884 CALL!

TIPS FROM THE TIGERCUB

#39

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156 Collingwood Ave.
Columbus, OH 43213

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Over 138 original programs in Basic and Extended Basic, available on cassette or disk, only \$3.88 each plus \$1.58 per order for PPH. Entertainment, education, programmer's utilities. Descriptive catalog \$1.88, deductible from your first order.

Tips from The Tigercub, a full disk containing the complete contents of this newsletter Nos. 1 through 14, 58 original programs and files, just \$15 postpaid.

Tips from the Tigercub Vol. 2, another diskfull, complete contents of Nos. 15 through 24, over 68 files and programs, also just \$15 postpaid. Or, both for \$27 postpaid.

Nuts & Bolts (No. 1), a full disk of 188 Extended Basic utility subprograms in merge format, ready to merge into your own programs. Plus the Tigercub Menuloader, a tutorial on using subprograms, and 5 pages of documentation with an example of the use of each subprogram. All for just \$19.95 postpaid.

Nuts & Bolts No. 2, another full disk of 188 utility subprograms in merge format, all new and fully compatible with the last, and with 18 pages of documentation and examples. Also \$19.95

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!

- TIGERCUB'S BEST PROGRAMMING TUTOR
- PROGRAMMER'S UTILITIES
- BRAIN GAMES
- BRAIN TEASERS
- BRAIN BUSTERS!
- MANEUVERING GAMES
- ACTION GAMES
- REFLEX AND CONCENTRATION
- TWO-PLAYER GAMES
- KID'S GAMES
- MORE GAMES
- WORD GAMES
- ELEMENTARY MATH
- MIDDLE/HIGH SCHOOL MATH
- VOCABULARY AND READING
- MUSICAL EDUCATION
- KALEIDOSCOPES AND DISPLAYS

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 28 programs, you may have already noticed that line 148 should go to 168, 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(48,"FFB
01010101FFB10101010101FF
FF0101010101FF0101010101
01FF")
120 CALL CHAR(36,RPT$("F",64
)): CALL MAGNIFY(4):: FOR X

```

```

=2 TO 22 STEP 2 :: CALL SPRI
TE(0X,36,X/2+1-(X>7)-(X)13),
32+X#6,48+X#6):: NEXT X
130 S=1 :: CALL SPRITE(0S,48
,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+2,48,16,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,48,16,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+2,48,16,T
R,TC):: CALL DELSPRITE(0S)::
FR=TR :: TR=FR+58 :: 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 sort
ed
120 CALL CLEAR :: DIM A$(28,
4):: RANDOMIZE :: DEF X%=CHR
$(26#RND+65)
130 FOR J=1 TO 28 :: A$(J,1)
=X%&X%&X% :: A$(J,2)=STR$(IN
T(10#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=28 !2-dimensional arra
y sorting routine by Ian Swa
les

```

```

160 DIM Q(20):: FOR X=1 TO 2
  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 210
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 N=0 :: ON ERROR 110 :: ACCEPT M$ :: N=VAL(M$):: GOTO 120
110 ON ERROR STOP :: RETURN 120
120 ON (N=0)+2 GOTO 130,140
130 PRINT M$ :: 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 EXPHEM2. When SAVED, enter CALL LOAD(-31088,63,255), enter NEW, enter OLD EXPHEM2, 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 "PID"! and then type ! 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 10;RM 132; IN +5;F1;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 ALL:"PRINTER? PID" :: ACCEPT AT(12,1)SIZE(-10):P% :: GOSUB B 895 :: PP=3
840 DISPLAY AT(24,1):"PRINTER NAME? PID" :: ACCEPT AT(24,1)SIZE(-14):PP% :: GOSUB B 95 :: PRINT @2;SEG$(D$,1,4)&" - Diskname="&N%
895 OPEN #3:P%,VARIABLE 132 :: PRINT #3:CHR$(27);"B";CHR$(2);CHR$(27);"M";CHR$(10);CHR$(27);"N";CHR$(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(0,K,S):: IF S=# 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

```

```

SKI.",INPUT ,RELATIVE,INTERNAL :: INPUT #1:A$,J,J,K :: F$(0)=A$&" "&STR$(K)
160 X=X+1 :: INPUT #1:F$(X),I,J,K :: IF F$(X)="" THEN 170
0 :: F$(X)=F$(X)&" "&T$(ABS(1)):: GOTO 160

```

```

170 X=X-1 :: CLOSE #1 :: DISPLAY AT(12,1)ERASE ALL:"REMOVE MASTER DISK": "INSERT BACKUP DISK": "PRESS ENTER"
180 CALL KEY(0,K,S):: IF S=# THEN 180

```

```

190 OPEN #1:"DSK1.",INPUT ,RELATIVE,INTERNAL :: INPUT #1:A$,J,J,K :: DISPLAY AT(1,1)ERASE ALL:F$(0):: DISPLAY AT(1,15);A$&" "&STR$(K);
200 Y=Y+1 :: R=R+1 :: GOSUB 290 :: INPUT #1:A$,I,J,K :: IF A$="" THEN 260 :: K0=A$&" "&T$(ABS(1))

```

```

210 IF K0=F$(Y) THEN DISPLAY AT(R+1,1):F$(Y):: DISPLAY AT(R+1,15);K0:: GOTO 250

```

```

220 IF K0<F$(Y) THEN DISPLAY AT(R+1,15);K0:: Y=Y-1 :: GOTO 250

```

```

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

```

```

240 IF K0=F$(Y) THEN 210 ELSE IF K0<F$(Y) THEN 220 ELSE IF Y<X THEN 230 ELSE DISPLAY AT(R,15);K0;
250 GOTO 200

```

```

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

```

```

280 DISPLAY AT(24,1):"PRESS ANY KEY" :: CALL KEY(0,K,S):: IF S=# 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(0,K,S):: IF S=# THEN 300
310 CALL CLEAR :: R=1 :: RETURN

```

And that is just about

MEMORY FULL!

Jim Peterson