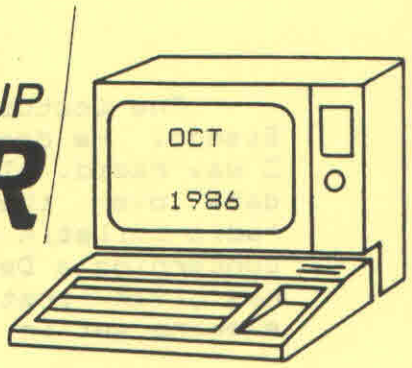
CEDAR VALLEY 99'ER USER GROUP NEWSLETTER



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NEWSLETTER TOPICS

1. Next Meeting Notes
2. Future Meeting Dates
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****NEXT MEETING****

Monday, Nov. 10, 7:00 PM at the JA building, 330 Collins Road NE.
ANNUAL SWAP MEET PLUS:
We will have the annual buy sell trade time. Bring those things you no longer use and do some bargaining. There will be a first time library copy session. See the meeting additions page.

NEW YEAR!! MEMBERSHIP RENEWAL!!

****FUTURE MEETING DATES****

Please mark the following dates on your calendar for future meetings: NOVEMBER 10, DECEMBER 8, JANUARY 12.

****

****CV99'er UG OFFICERS****

President: Jim Green
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Cedar Rapids, Iowa 52402
377-4073 (Home) or
395-1898 (Office)

Vice President: Bruce Winter
702 Fernwood Dr. NE
Cedar Rapids, Iowa 52402
393-0610

Secretary: Gary Bishop
860 Westview Dr.
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377-9574

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Cedar Rapids, Iowa 52403
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Chairpersons:

Program: Dave Dalton
920 Hillview Dr.
Marion, Iowa 52302
377-1715

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3179 Country Park Dr.
Toddville, Iowa
393-6022

Education: James Trainor
6013 Langdon Ave. SW
Cedar Rapids, Iowa
396-2846

****MINUTES FROM OCT MEETING****

The Occtober 13, 1986 meeting started with a presentation by Gary Bishop. He demonstrated an interface between the TI and an amateur radio 2 way radio. The computer could display Morse code, Teletype, an ASCII data over the air. An interesting conversation was watched between a radio bulletin board located in Tennessee and an amateur in Texas concerning a Dear Abby question. It was explained that this presentation was given first due to radio propagation conditions that got worse as evening set in.

The business meeting followed. The minutes for September as printed in the newsletter were approved. A Treasurer's report was read and approved. Next meeting was announced as November 10. This is membership renewal meeting. Next meeting after that is December 8. Received a check from the August Hamfest/Computer fest. This was our share of the profits and ticket sales. New business: New Triton products were discussed. FR base and Creative Filing are in our library as shareware. Cor Comp's new expansion card talked about. 23 people were present. The LA 99'er UG wrote a set of programs called Printer Utilities, they are selling copies for $10 apiece. This is a money making program for this users group and should be supported. A copy will be purchased for the newsletter editor to assist in printing this newsletter. The library will be open at the November meeting. We need several disk systems, preferably with dual disks. You may copy anything from the library you want, but please be reasonable about how many you copy, because there will be people waiting to use the systems. If anyone still has software out from the IUG for review, please complete the tasks and get the results to Bruce Winter or Ed Hayek for possible use at the November meeting. The door prize was won by Bryan Arnold - he gets a choice from the prize box. Second place winner was Jerry Canady, he gets 4 selections from our library, including media.

A closing talk was given by Gary Bishop about how magnetic media works. A basic description about how the magnetic particles are arranged in a field, and how disk drives use this to record and playback data. Samples of a hard disk platter with 5 megabytes were distributed. Meeting adjourned at 8:35 PM.

-Submitted by Gary D. Bishop, Secretary.

Thank you Gary for an entertaining and informative presentation.-ed

The club currently needs a volunteer to serve as Secretary. Gary Bishop has been in this position for a year and a half, and needs to retire from this position to pursue other interests. If you would like to serve your user's group as Secretary, please contact Jim Green, or make your wishes known at the next meeting. Gary assures us that the position is not hard, and has many benefits.

FOR SALE/WANTED:

Console, cassette cable and adapter, extra modulator, 32 tapes of programs, XB and manual, console cover, $100. Jerry Fitzgerald (319) 396-3337

I am interested in The Smart Programming Guide for Sprites book from Millers Graphics. If anyone has this book I would be interested in borrowing or buying it from you, if you want to swap for it at the next meeting that would be fine too. M. Bonifazi

Norton Graphics ($5), Programming Aids III disk ($3). John Taylor (319) 377-3616

TI-99/4A console with Extended Basic, $65. Jerry Cerny (319) 393-0873

If you wish to have extension cables made up please contact Jerry Canady at 377-9382 or 395-2494 or one of the officers. State the length you need and I will try to have it at the meeting.

I am looking for technical/maintenance information on QUME 142 disk drives. Please contact Jerry Canady 377-9382 or 395-2494.

MISC:

BOOK ERRORS: If any of you who are struggling with Assembly Language on their own (as I am) and are using the book by Molesworth, I found the following errors on page 25.

In the source code listed, the opcodes and operands in line 11 should be interchanged with the ones in line 12. (The label START in line 11 is OK) Lines 31 and 32 should be changed to the entries given on page 33 for these lines.

The listing will work as given, but if you try to do the suggestion on page 33 to have the display only flash on the screen by deleting line 31, the program will not change unless you have made these corrections.

LIBRARY NOTE: Jack Space is now on disk. If interested contact Bruce Winter (club librarian).
-Thanks to John Johnson for these two.

GORILLA BANANA DESCENDERS: A recent catalog advertized a ROM kit that gives this printer full descenders on lower case letters. They apparently accomplish this by shortening the upper case letters. You must open the printer to determine the proper chip to order. With the printer open in front of you look directly at the circuit baord in back, the chip should be directly to the left of the long controller chip. The ID number on the chip should be 4AB0 or 3AL1. These are replaced with 290-300 (4AB0) or 290-301 (3AL1). They may be ordered from the E. Arthur Brown Company, 3404 Pawnee Drive, Alexandria, MN 56308. Price $19.95 + $1.95 S/H. If you have questions see Jim Green for the catalog.

NOVEMBER MEETING ADDITIONS:

Swap Meet:

Bring any items you wish to sell or trade. Part of the meeting will be devoted to advertising those deals you wish to make and sufficient time for the transactions.

Open Club Software Library:

FOR ALL MEMBERS WHO HAVE RENEWED THEIR MEMBERSHIP: (Bring your $8.00)

The librarian will bring the entire club library for a onetime FREE copy opportunity. This includes all programs in the CV 99'ERS library plus the recently acquired IUG library.

Look through your library listing and find those programs you've wanted to try but never got around to ordering. List the library numbers you desire to speed the process. Also note the media availability. Some programs are disk only.

Bring the media you will need. The group will have some media available for purchase, but the quantity is limited.

Bring a system to use. The more systems available the less limits per person will be required. We want everyone to have a chance. If you have a single disk system try to get together with a friend who has an external drive and arrange a two drive system. This coupled with DM 1000 would make speedy copies. If you are using a tape system try to arrange a test with a friend for tape to tape transfer. This is a speedy dup for tape based systems.

Try to let one of the officers know what you will bring so they can plan for sufficient power availability and attempt to determine the best logistics for accomplishment. If you have an extension power cable please bring it. This may be the limiter.

Please bring lots of patience. This is a first time effort and no one is sure how it will work out!

**********THANKS!!!!!!!

Annual Survey:

The annual survey to evaluate the computer power of our membership is included with the membership application latter in the newsletter. Please take the time to complete this survey. The results help provide the officers information to determine where the membership might like the group to concentrate its effort. The group exists for the sole purpose of furthering the use and enjoyment of the TI 99/4A computer. As an orphan computer the prime source of information and knowledge is VIA the users groups. Many new hardware and software items are becoming available. If we continue our common interest support the TI will continue to be a viable and usefull computer. To provide this support requires that we all share our successes and needs. So please input your needs and share your knowledge.

TIPS FROM THE TIGERCUB

#38

TIGERCUB SOFTWARE
156 Collingwood Ave.
Columbus, OH 43213

Over 130 original programs in Basic and Extended Basic, available on casette or disk, only $3.00 each plus $1.50 per order for PPH. Entertainment, education, programmer's utilities. Descriptive catalog $1.00, deductable 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.

Tips from the Tigercub Vol. 2, another diskfull, complete contents of Nos. 15 through 24, over 60 files and programs, also just $15 postpaid.

```
##############################
#                            #
# Tips from the Tigercub     #
# Vol. 3 is now ready.       #
# Another 62 programs,       #
# routines, tips, tricks.    #
# from Nos. 25 thru 32.      #
# Also $15 postpaid. Any     #
# two Tips disks $27 or      #
# all 3 for $35 postpaid.    #
#                            #
##############################
```

Nuts & Bolts (No. 1), a full disk of 100 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 100 utility subprograms in merge format, all new and fully compatible with the last, and with 10 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, PROGRAM-TUTOR, PROGRAMMER'S UTILITIES, BRAIN GAMES, BRAIN TEASERS, BRAIN BUSTERS!, MANEUVERING GAMES, ACTION 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 have discovered a rare bug in the 28-Column Converter, published in Tips #18, which will cause an I/O 25 ERROR if the very last line of the program being converted happens to have exactly 80 characters. You can fix it by adding a line -

```
215 IF EOF(1)=1 THEN 260
```

There is also a rare bug in the SIDEWAYS subroutine on my Nuts & Bolts #2 disk, which prevents turning some redefined character sets sideways. If you are one of those who BOUGHT that disk from me, you can fix it by changing the L=LEN(B$) in line 21639 to L=64.

I was in too much of a hurry to go fishing when I put the last couple of Tips together. In the Gordian Knot in Tips #35, I left out some essential instructions. Please add -

```
131 DISPLAY AT(11,1):" When
you cross your track,":"pres
s O to go over, U to go":"un
der, C to go across."
```

To make that fit, you will have to change the DISPLAY AT in line 130 to (8,1), in line 140 to (15,1) and in line 150 to (20,1), also the ACCEPT At in 160 to (20,11). And this change will prevent a lockup when you reach a border -

```
200 D=D-1 :: IF ABS(D-D2)=2
OR R+(D=1)=0 OR R-(D=3)=25 O
R C+(D=4)=2 OR C-(D=2)=31 TH
EN 190 :: GOSUB 510 :: IF D<
>D2 THEN GOSUB 450
```

I wrote the dulcimer music in Tips #36 in Basic, but I forgot to test it in Basic. It actually runs much better in Extended Basic, but will run fairly well in Basic if you delete the delays in lines 280 and 380.

If you liked the ESCHER ART in Tips #37, these modifications will improve it considerably -

```
110 DISPLAY AT(12,1):"Press
-":" Q for new pattern":"
B to change background":" F
to change foreground":" R to
reverse colors": : :"Any ke
y to start"
280 A=INT(6*RND+3):: H=INT(2
4/A):: RX=24-H*A :: HC=INT(2
8/A):: CX=28-HC*A :: W=ABS(H
C/2=INT(HC/2))-(RX>8):: DIM
M(8,8):: FOR P=1 TO A
330 IF K<>66 THEN 346
340 BC=BC+1+(BC=16)*15 :: IF
 BC=F THEN 340 ELSE 347
346 IF K<>78 THEN 360 :: F=F
+1+(F=16)*15 :: IF F=BC THEN
 346
347 FOR S=7 TO 14 :: CALL CO
LOR(S,F,BC):: NEXT S :: GOTO
 310
350 ! **DELETED LINE **
360 IF K<>ASC("R")THEN 310 :
: T=F :: F=BC :: BC=T :: GOT
O 347
600 GOSUB 900 :: FOR T=1 TO
A :: DISPLAY AT(R-1+T,C):M$(
V,T):: NEXT T :: NEXT C
601 IF CX>0 THEN AA=A :: GOS
UB 800
605 GOSUB 1000 :: NEXT R
606 IF RX=0 THEN 610
607 GOSUB 1000 :: FOR C=1 TO
 A*HC STEP A :: GOSUB 900 ::
 FOR T=1 TO RX :: DISPLAY AT
(R-1+T,C):M$(V,T):: NEXT T :
: NEXT C
608 IF CX>0 THEN AA=RX :: GO
SUB 800
800 GOSUB 900 :: FOR T=1 TO
AA :: DISPLAY AT(R-1+T,C):SE
G$(M$(V,T),1,CX):: NEXT T :
: RETURN
900 V=V+1+(V=4)*4 :: RETURN
1000 V=V+W :: V=V+(V>4)*4 ::
 RETURN
```

I had a letter from a teacher who was using the PRK module to keep student grades, and wanted to know how to average them. It can be done, but is so impractical that I wrote this program. While I was at it, I speeded up the loading and saving to cassette greatly by converting the grades to an ASCII string and combin-the student's name and all grades into one record.

```
100 DIM N$(50),T(50,20)
110 CALL CLEAR
120 PRINT "      TEACHER'S
HELPER": : : :
130 REM  - by Jim Peterson
140 PRINT "(1)CREATE A FILE?
":"(2)ADD TO FILE?":"(3)LOAD
 A FILE?":"(4)SAVE A FILE?":
"(5)PRINT A FILE?"
150 PRINT "(6)CORRECT A FILE
?":"(7)COMPUTE AVERAGES?":"(
8)QUIT?"
160 CALL KEY(0,K,S)
```

```
17$ IF (S=$)+(K<49)+(K>56)TH
EN 16$
18$ ON K-48 GOTO 19$,25$,61$
,88$,38$,99$,112$,151$
19$ X=$
20$ INPUT "SUBJECT? ":S$
21$ GOSUB 137$
22$ INPUT "TEST #? ":N
23$ GOSUB 144$
24$ GOTO 14$
25$ PRINT :;:"(1)ADD NAMES?"
:"(2)ADD GRADES?"
26$ CALL KEY($,K,S)
27$ IF (S=$)+(K<49)+(K>53$)TH
EN 26$
28$ ON K-48 GOTO 29$,31$
29$ GOSUB 137$
30$ GOTO 14$
31$ INPUT "TEST #? ":Q
32$ IF T(1,Q)=$ THEN 35$
33$ PRINT :;:"TEST #";STR$(Q
);" ALREADY RECORDED"
34$ GOTO 14$
35$ N=Q
36$ GOSUB 144$
37$ GOTO 14$
38$ CALL CLEAR
39$ PRINT "OUTPUT TO":"(1)SC
REEN?":"(2)PRINTER?"
40$ CALL KEY($,K,S)
41$ IF (S=$)+(K<49)+(K>53$)TH
EN 40$
42$ IF K=49 THEN 46$
43$ INPUT "PRINTER DESIGNATI
ON? ":P$
44$ OPEN #2:P$
45$ F@=2
46$ PRINT "PRESS ANY KEY TO
PAUSE": :
47$ PRINT #F@:S$: :
48$ FOR J=1 TO X
49$ PRINT #F@:"";N$(J)&" ";T
AB(18);
50$ FOR K=1 TO HN
51$ PRINT #F@:T(J,K);
52$ NEXT K
53$ CALL KEY($,K,S)
54$ IF S<>$ THEN 53$
55$ NEXT J
56$ PRINT #F@
57$ IF F@=$ THEN 14$
58$ F@=$
59$ CLOSE #2
60$ GOTO 14$
61$ PRINT :;:"(1)CASETTE?":"
(2)DISK?"
62$ CALL KEY($,K,S)
63$ IF (S=$)+(K<49)+(K>53$)TH
EN 62$
64$ ON K-48 GOTO 65$,67$
65$ OPEN #2:"CS1",INPUT ,FIX
ED
66$ GOTO 69$
67$ INPUT "FILENAME? DSK":F$
68$ OPEN #2:"DSK"&F$,INPUT
69$ INPUT #2:X,HN,S$
70$ FOR J=1 TO X
71$ INPUT #2:K$
72$ N$(J)=SEG$(K$,1,POS(K$,C
HR$(255),1)-1)
73$ K$=SEG$(K$,POS(K$,CHR$(2
55),1)+1,255)
74$ FOR K=1 TO HN
75$ T(J,K)=ASC(SEG$(K$,K,1))
-5$
76$ NEXT K
77$ NEXT J
78$ CLOSE #2
79$ GOTO 14$
80$ PRINT :;:"(1)CASETTE?":"
(2)DISK?"
81$ CALL KEY($,K,S)
82$ IF (S=$)+(K<49)+(K>53$)TH
EN 81$
83$ ON K-48 GOTO 84$,86$
84$ OPEN #2:"CS1",OUTPUT,FIX
ED
85$ GOTO 88$
86$ INPUT "FILENAME? DSK":F$
87$ OPEN #2:"DSK"&F$,OUTPUT
88$ PRINT #2:X:HN:S$
89$ FOR J=1 TO X
90$ K$=""
91$ FOR K=1 TO HN
92$ K$=K$&CHR$(T(J,K)+5$)
93$ NEXT K
94$ PRINT #2:N$(J)&CHR$(255)
&K$
95$ K$=""
96$ NEXT J
97$ CLOSE #2
98$ GOTO 14$
99$ CALL CLEAR
100$ INPUT "STUDENT'S NAME?
":Q$
101$ FOR J=1 TO X
102$ IF N$(J)=Q$ THEN 106$
103$ NEXT J
104$ PRINT :;:"NAME NOT FOUN
D": :
105$ GOTO 14$
106$ INPUT "CORRECT WHICH TE
ST? ($ TO QUIT) ":C
107$ IF C=$ THEN 111$
108$ PRINT :;:N$(J);"'S TEST
 #";STR$(T(J,C)): :
109$ INPUT "CORRECT TO? ":T(
J,C)
110$ GOTO 106$
111$ GOTO 14$
112$ CALL CLEAR
113$ PRINT "OUTPUT TO":"(1)S
CREEN?":"(2)PRINTER?"
114$ CALL KEY($,K,S)
115$ IF (S=$)+(K<49)+(K>53$)T
HEN 114$
116$ IF K=49 THEN 120$
117$ INPUT "PRINTER DESIGNAT
ION? ":P$
118$ OPEN #2:P$
119$ F@=2
120$ PRINT #F@:S$
121$ FOR J=1 TO X
122$ PRINT #F@:N$(J);" AVERA
GE ";
123$ FOR K=1 TO HN
124$ TT=TT+T(J,K)
125$ NEXT K
126$ AV=TT/HN
127$ TAV=TAV+AV
128$ PRINT #F@:AV
129$ TT=$
130$ NEXT J
131$ PRINT #F@:"CLASS AVERAG
E ";TAV/X
132$ TAV=$
133$ IF F@=$ THEN 136$
134$ F@=$
135$ CLOSE #2
136$ GOTO 14$
137$ PRINT :;:"STUDENT'S NAM
ES - ":"type END when finish
ed": :
138$ X=X+1
139$ M$="NAME #"&STR$(X)&" "
140$ INPUT M$:N$(X)
141$ IF N$(X)<>"END" THEN 13
8$
142$ X=X-1
143$ RETURN
144$ FOR J=1 TO X
145$ M$=N$(J)&"'S GRADE? "
146$ INPUT M$:T(J,N)
147$ NEXT J
148$ IF N<HN THEN 24$
149$ HN=N
150$ RETURN
151$ END
```

The reason that 5$ is added to the value in line 92$, before saving, and subtracted again in line 75$ after loading, is because of a quirk of the computer that I don't recall seeing in print anywhere. Did you know that INPUT will read a string beginning with ASCII $, 2, 4, 7, 18, 12, 14, 18, 28, 26, 27, 31, 32, or 44 as a null string (a blank), and will drop these characters at the end of a string? And ASCII 32 will be dropped at the beginning or end of a string. And ASCII $ within a string, or ASCII 34 anywhere, will crash, while ASCII 44 within a string will lose the rest of the string. I should have known what ASCII $, 32 (the space), 34 (quotes) and 44 (comma) would do, but why the others?

LINPUT will accept anything, of course, but I wanted to keep this in BASIC for the teachers who are struggling along without the XBasic module or disk drive.

Chick De Marti published in LA 99ers TOPICS the surprising discovery that PRINT USING and DISPLAY USING can read the IMAGE format from a variable, array or string!

Which led me to some fooling around -

```
10$ !PRINT USING DEMO by Jim
 Peterson, based on a discov
ery by Chick De Marti
11$ CALL CLEAR :: RANDOMIZE
:: CALL SCREEN(5):: FOR S=2
TO 14 :: CALL COLOR(S,S,S)::
 NEXT S
12$ N=INT(13*RND+1):: C$=CHR
$(8*N+32-(N=4)*11)
13$ FOR J=N TO 12 :: A$=RPT$
(" ",J)&"@"&RPT$(" ",26-J*2)
&"@" :: PRINT USING A$:C$,C$
 :: NEXT J
14$ FOR J=12 TO N STEP -1 ::
 A$=RPT$(" ",J)&"@"&RPT$(" "
,26-J*2)&"@" :: PRINT USING
A$:C$,C$ :: NEXT J :: GOTO 1
2$
```

Here is one last Tigercub challenge. What is the longest possible one-liner? And what is the longest possible one-liner that actually does something?

MEMORY FULL

Jim Peterson

THANKS! .TO THE SAN DIEGO TI-SIG.

NOW FOR SOME HARDWARE NEWS: From the great State of Texas, home of the MI TI TEE-EYE-FOH-AYUH, comes a proposal by Charles Smith as printed in the July, 86 Johnson Space Center UG newsletter. The piece is entitled: "The Dream Expansion machine." Smith proposes producing a low cost expansion system built around a disk controller. It would have a PIO port, two RS232 ports, a clock with a battery backup, four input control ports, 32K of RAM and a flexible cable connector. Also, it would put the speech synthesizer on the board.

BUT THAT ISN'T ALL. It gets better: The controller would harness up to four Double Density, Double Sided drives which would yield 1.4 megabytes of storage. It would be mounted in a 2X7X10-inch box. But the real grabber that got my attention was this sentence: "He (Smith) plans to add a hard disk kit just as soon as the above is completed." The author of the piece, John Owen, also noted the above expansion board can be mounted in your P-Box for $40 extra.

If you are interested, send Smith the following info with a stamped and self addressed letter:

1. What you would like included in this project. (Your dreams)
2. Summary of your hardware/software capabilities.(If any)
3. THE NAMES, ADDRESSES AND PHONE NUMBERS OF ANYONE YOU KNOW WHO HAVE WRITTEN 99-4A DSR'S.(Including yourself if apropos.)
4. A request for a set of plans for yourself or your group.
5. Ideas on how to reduce cost of this project.
6. Any plans you may have for hard ware mods to the 99/4A.
7. Listings and or disk copies of any 9900 DSR's you have access to and their source. Your disk will be returned full of goodies from the JUG library in payment.
8. Your continued interest in helping Smith to develop this system.

Mail your letter to:

Charles Smith
134 Cherry Tree Lane
Friendswood, TX 77546

Or call him between 7-8PM Central
(713) 482-6539

JOHN OWEN STATES Smith is a circuit board designer at JSC and multi lingual AL programmer. Also, the results of the project will be put in Public Domain, the plans/software will be made available at cost. Further, that contributors to the project will be rewarded first.

RORY BINKERD of the Siouxland 99'ers, Sioux City, So.Dak, reported in August that Paul Charlton, author of FASTTERM has signed on with Disk Only Software to head up the development of a "revolutionary " new terminal emulator program.
Disk Only is actively seeking ideas and suggestions for the program. However, individuals are cautioned to submit a one page outline of any serious ideas before submitting any extensive effort. If interested, send them a stamped, self addressed envelope with your suggestion:

Disk Only
PO BOX 4170
Rockville, MD. 20850

Disk Only does advise: "Private Dated mail or electronic communications would be the only ideas considered for remuneration." And by electronic they don't mean what comes via public forums (talk on BBS's.)

TRICKS AND TIPS: This is reprinted from the May, 1986 BUG BYTES NL of the Brisbane, Australia UG:

If you want to open up the Expansion Memory for Display, Variable 80 files this is what you would do:

```
100 CALL INIT
120 OPEN #1:"EXMEM2"
130 CALL LOAD("DSK1.ASSM1")
140 CALL LOAD("DSK2.ASSM2")
150 CALL LINK("START")
160 REM CONTINUE REST OF PROGRAM
```

In the above example the 24K of high-memory was saved for use as a statement starts the first routine and off we go. If that's not enough for you, you can also use the MINI MEMORY for 4K more storage of assembly routines! Now that's 16K of program space; 12K of assembly routine space!

TI BUMPER STICKERS:
"TI 99/4A USERS LOVE BYTES AND NYBBLES"
"TI 99/4A'S EAT APPLES"
"I (HEART) MY TI"

NEXT MEETING

MONDAY, NOVEMBER 10

** MEMBERSHIP RENEWAL NIGHT **

SWAP MEET

CLUB LIBRARY AVAILABLE

7:00 P.M.

Cedar Valley 99'er User's Group
288 Windsor Dr. NE
Cedar Rapids, IA 52402

GARY BISHOP
124-222
860 WESTVIEW DR
MARION IA 52302