



OCTOBER 1986 ISSUE NO. 13

FOR THE RECORD

by Ed Bittner  
Recording Secretary



Could you ever conceive of the notion of missing a West Penn 99er's meeting? A worse mistake would be to actually miss one, in favor of a Steeler game. If you believe our club is not all what you hoped it would be, our problems are about two magnitudes of order less than the Steelers but we must confront them. Where are we weak? What direction should the officer's persue to improve our club. We (the officers) need your input. We are only a phone call away. I personally believe that our new site, the Irwin Presby. Church, the 3rd Tuesday every month, will be an improvement and will attract more members.

From my standpoint the worst thing about missing a meeting is having to write this report based on a cassette tape of the proceedings. I heard (or thought I heard)

- a) The TI Consumer Relations Division is suppling "Diagnostic Software" for the 99/4A. (I imagine the Corresponding Secretary Gene Kelly is up on this (If he wasn't he is now)),
- b) the "smart programmer" is continuing its slide over to assembly language and
- c) the group has purchased a 13" color monitor.

Will we have a Christmas party? What's new in the library? What will the "contest rules" be? And what's the prize? And who's who in expertise were all questions raised at the meeting. These are substantial questions which will be addressed at an executive committee meeting on Monday night, September 29th.

A demonstration of the Milton Bradley expansion system by Scott Coleman proved interesting but Scott would not give it away as the raffle prize. Instead, two raffle winners; first prize, a diskette full of games and stuff and second prize (won by yours truly) the Alpiner cartridge which believe it or not, my kids loved! John Willforth demoed his all in one, are you ready, console with 32K and speech synthesizer and load interrupt switch and reset switch and flashy memory lights. With all that stuff in the console, there's no room for heat build-up!

Minded absently (II),

Scoops Bittner

P.S. Don't miss the October meeting 7:00 at Irwin Presby. Church. I hear there are 2 raffle prizes: First place wins 1 week in Philadelphia, Second place is 2 weeks in Philadelphia!

Bye!

# TREASURER'S REPORT

## (TRANSACTIONS IN SEPTEMBER)

received at Sept. 15th  
meeting:

\$80.00 - sale of disks  
14.00 - raffle  
9.00 - pop sale  
7.50 - new membership

-----  
\$110.50 TOTAL

Paid out in september:

\$44.00 - postage  
10.00 - rent  
100.00 - monitor  
6.00 - pop

-----  
\$160.00 TOTAL

BALANCE UPDATE AT NEXT MEETING

T. I. Writer (Part 3) by Stan Katzman.

Up to now we have created a file and have made corrections of any errors produced. The next thing we have to do is save the file to a disk so we can use it in the future if we so desire. (Later when we get into the Text Formatter the document must be on a disk.)

To save a document to a disk do the following: (I am assuming only one disk drive.) 1) Get T. I. Writer Editor, 2) remove the program disk, 3) insert a formatted disk for your document, 4) compose your document. Now we will save your document and here is how.

At the end of your document go to the Command Mode (Fctn 9) now type F <enter> for Files. You will now see a menu of "LoadF, SaveF, PrintF, DeleteF, Purge or ShowDirectory". Now type SF <enter> and you will now see "SAVE FILE, enter filename:" at this point for a one disk drive system type DSK1.filename <enter>. For "filename" type anything you want to call your document. Your document will now be saved to the disk. When the "saving" process is finished you are returned back to the Edit mode in your document. You can now add or change your document and when you go back to the "SAVE FILE, enter filename:" section you will see the last entered filename and all you have to do is press <enter> and your entire file will be saved under that name.

If you want a different filename you can change it, if you so desire.

We can also only save part of a file, if we so desire. This is done the following way. At the "SAVE FILE, enter filename:" enter the starting line number, a space, the stop line number, a space and then DSK1.filename. The starting and stop line numbers are obtained from those numbers you see on the left of the screen. For example you could enter 32 45 DSK1.LETTER and you will only save the material starting at line 32 and ending at line 45 to the disk.

By the way you can "get rid" of the line numbers on the left by pressing Fctn (0 zero). To get the line numbers back press Fctn (0) again. This is called "togglng". We can now save documents to disk (very important). More next time.

WHISTLES AND BELLS ARE NICE BUT LIGHTS?

I've been putting memory in consoles and speech synthesizers for nearly a year now and can account for about 70 such units out there, some of them being in very distant and far away places. Well, ONE person (ED MENASIAN) said he'd like to know when his memory was functioning, since with the PEB unit now removed, there is no flashing LED to indicate that the memory is in operation. I've come up with and refined a pretty "FLASHY" upgrade to the console or speech, which will display not only the fact that the memory is functioning, but exactly which 8K block you are in at that instant.

The drawings to the left of this text, will, if you take a few moments to study, explain how to install the unit inside of ANY console, except the very few QI consoles that TI produced. (These consoles are identified by the CPU chip being mounted vertically on the main board, rather than horizontal-ly.)

I have not included, because of space, drawings for the speech, but the same procedures apply conceptually.

PARTS LIST:

- About 10" ribbon cable. (at least 5 conductor)
- 1' of single conductor, 26 or 28 guage insulated wire.
- (1) 74LS04 chip.
- (4) standard size LEDs or what ever size suits you.
- (1) 330 ohm 1/4 watt resistor (or approximate).
- Phillips screw driver (#2 tip size), 15 to 25 watt grounded soldering iron, thin resin core solder, wire cutters/strippers, patience.

After you have gathered the above items, remove the console board, and taking the 74LS04 chip in hand, bend the pins, 1 thru 6, and 8 thru 13 out so they are on a flat plane 180 DEG. in reference to each other. Now snip the smaller extensions of ALL pins off.

Set the chip down on the US08 chip as shown in the drawings to the left, and solder pins 7 and 14 to the corresponding two pins on the US08 chip. You may desire to put a drop of super glue on the top of the bottom chip, and hold the new chip (TOP CHIP) on in the correct position for awhile. This makes the two chips a very firm pair.

Now just wire as shown in the wire list on the left and mount your LEDs. BY THE WAY you don't need memory in your console or speech for this modification to work, it will work for any 32K even if in the PEB!!!!

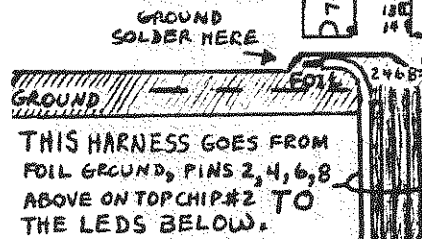
YOU DO ACCEPT FULL RESPONSIBILITY IF YOU DESTROY YOUR CONSOLE!!!

HAVE FUN

JOHN F> WILLFORTH  
THE WEST PENN 99'ERS

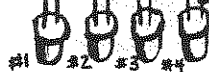
GROM CONNECTOR

RATHER THAN FIND AND USE THE UNUSED INVERTERS ON THE CONSOLE BOARD, I PUT ANOTHER LOW POWER SHOTTKY PIGGY-BACK ON AN ALREADY EXISTING CHIP (TO GET ONLY +5V AND GROUND) THEN TAKING THE 4 CHIP SELECT SIGNALS FROM CHIP#1 AND FEEDING THEM INTO 4 OF THE 6 INVERTERS IN A 74LS04 CHIP, I THEN TAKE THE 4 OUTPUTS DOWN TO THE 4 LEDS SHOWN BELOW SEE POINT-TO-POINT WIRING CHART RIGHT.



TIE THESE LEADS OF THE 4 LEDS (NEXT TO FLAT SIDE) TOGETHER.

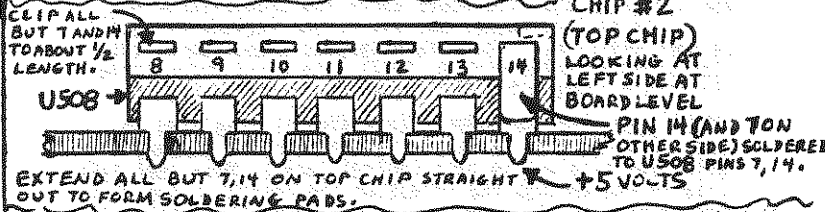
R1 RESISTOR 330Ω 1/2 WATT



>2000 >A000 >C000 >E000  
TO TO TO TO  
>3FFF >BFFF >DFFF >FFFF

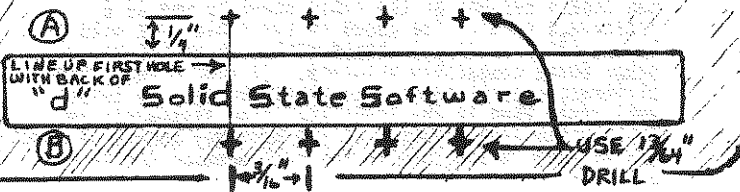
ADDRESS BLOCKS (8K) REPRESENTED BY THE 4 LEDS. TOTAL 32K.

CHIP #2



SUGGESTED MOUNTING LOCATIONS

(A) LOCATION IS FOR SOME OLDER CONSOLES WHERE NOT ENOUGH AREA (AT (B)) WAS ALLOWED. LOOKS BETTER AND IS MORE FUNCTIONAL AT (A) LOCATION



CONTEST CONTEST CONTEST CONTEST CONTEST

It was suggested at the August meeting that we have a programming contest. Since I "voluntered" to get the "Bits Twiddling", here it is:

THE FIRST ANNUAL WEST PENN 99'ERS USER GROUP PROGRAMMING CONTEST

Open to all members, including the budding young hackers among us, you may submit any program that you have written. You may enter more than once but to keep it simple use a separate disk for each entry.

"OFFICIAL RULES AND REQUIREMENTS"

- 1) Categories are GAMES (text and arcade), EDUCATIONAL, and UTILITIES.
- 2) Program must be written after 09-15-86 (sorry Chuck, no Starguard).
- 3) Program may be written in any language and may reside on cassette or disk in SSSD or DSSD format (yes Mickey, I still have a cassette on my system.)
- 4) Include source code if using a compiled or assembeled language. It is hard to tell what the program format runs under sometimes. Document any use of a copyrighted or public domain subroutine in the program title screen and in the documentation.
- 5) Include docs on disk in TI-WRITER or E/A editor format if they are necessary to operate program.
- 6) Label each submission with NAME, ADDRESS, AGE, LANGUAGE, OPTIONAL EQUIPMENT.
- 7) Contest will run until the December 86 meeting and the winners will be announced at the January 87 meeting.
- 8) Submissions may be given to me at the meetings or mailed to me at:

GENE KELLY  
444 WALL AVE.  
WALL, PA 15148

If mailed, please mark the outer envelope with:

MAGNETIC MEDIA--HANDLE WITH CARE

My mailman doesn't know the difference between a floppy disk and my AT&T bill.

- 9) Entries will be judged on originality, ease of use, usefulness, attention holding, and quality of code (ie. no untrapped errors, speed of execution, etc), and use of 994/A facilities (ie. graphics, speech, etc.)
- 10) Prizes to be announced as soon as I can arrange for them. We may have a use for that "Tombstone City" cartridge, yet!

11) Programs will become the West Penn 99'ers property when submitted and the winning entries will be made available to the members on a "Best of WP99UG" disk.

Floppies and cassettes will be returned at the Jan 87 meeting. With over 800 disks, I don't need any more for a while. Anyone have a free hard drive??? Enter often and who knows, we may have another "Disk Manager 1000" type project when this is over.

Just in case you are worried, I will not enter myself in the contest. Maybe you all can persuade Clyde to refrain from entering also. Till next time, HAPPY HACKING!

THE FOLLOWING ARTICLE IS TAKEN FROM THE OZARK 99 ER, NOVEMBER 1985. FOR THOSE OF YOU WHO USE TI WRITER THIS LIST OF COMMANDS SHOULD BE OF GREAT HELP.

## TRANSLITERATION COMMAND SET ##

A couple of month's ago Von Barker brought copies of a set of "Transliteration Codes" to the meeting for members who were interested. At the time, I had no idea what these codes were for and unfortunately, I'm afraid, neither did many of our members. I say "unfortunately" because a little "digging" has revealed to me just how useful this set of codes can be once you figure out how to use them.

The first place I was able to find a description of how to use these codes was in an article, written by Ron Castleton, in the February, 1985 issue of MICROpendium. Proper use of the codes allows you to access the special capabilities of your printer (such as different type styles, underline, superscript, etc.) by inserting one or two symbols into your text while you are writing it.

Here is how it is done. First, type in the left column of the table below using the Editor of TI-Writer. Make sure each .TL command is on a separate line.

TRANSLITERATION	KEYSTROKE	PRINTER COMMAND
.TL 123:27,52	FCTN F	Start Italics
.TL 125:27,53	FCTN G	Stop Italics
.TL 91:27,83,0	FCTN R	Start Superscript
.TL 93:27,83,1	FCTN T	Start Subscript
.TL 124:27,84	FCTN A	Stop Super/Subscript
.TL 1:27,66,3	CTRL U SHIFT A	Start Condensed
.TL 17:18	CTRL U SHIFT Q	Stop Condensed
.TL 2:27,87,1	CTRL U SHIFT B	Start Enlarged
.TL 18:27,87,0	CTRL U SHIFT R	Stop Enlarged
.TL 3:27,66,2	CTRL U SHIFT C	Start Elite
.TL 19:27,66,1	CTRL U SHIFT S	Stop Elite
.TL 4:27,45,1	CTRL U SHIFT D	Start Underline
.TL 20:27,45,0	CTRL U SHIFT T	Stop Underline
.TL 5:27,71	CTRL U SHIFT E	Start Doublestrike
.TL 21:27,72	CTRL U SHIFT U	Stop Doublestrike
.TL 6:27,89	CTRL U SHIFT F	Start Emphasized
.TL 22:27,70	CTRL U SHIFT V	Stop Emphasized

Then, move to the line immediately below your last .TL command and press CTRL U SHIFT P. This will print a character that looks like a "funny" zero. It "marks" the end of your file. Next remove the carriage returns from the end of each line, and then save the file to disk using a name that's easy to remember (for example: DSK1.TRANS). Now, your file is ready for use whenever you need it.

To use the commands, include the statement .IF DSK1.TRANS (or whatever you called it) at the start of the text file you are creating. This will include your transliteration file automatically in the text file you are creating. You could merge the transliteration file into each document, but use of the Include File(.IF) is more efficient! Then, to underline a section of text (for example) enter CTRL U, SHIFT D to start underlining -leaving a space after the preceding word-and CTRL U,

SHIFT T to stop the underlining. (You'll also need to press CTRL U again to return to the "normal" cursor, after you have put in each control code.) When your text file is run through the formatter the control codes will not be printed, but rather they will tell the printer to do what you want it to do. This makes it easy to mix print styles, underline sections of text, add subscripts or superscripts, etc.

You'll probably want to print out and save the right and middle columns of the table above to use as a "reference card". The codes in the table work with my Gemini 101 printer and should work with most Epson or other Epson compatible printers. If your printer uses different control codes, you should be able to easily substitute them in the transliteration statements to achieve the same result. If you have any questions about any of this, bring them to the next meeting and we will get them answered for you.

GETTING THE MOST FROM YOUR CASSETTE SYSTEM

BY MICKEY SCHMITT

NUMBER 6

CASSETTE - TIPS - TRICKS - AND TIDBITS

PART II

THIS MONTH I AM CONTINUING WITH THE TOPIC OF CASSETTE - TIPS - TRICKS - AND TIDBITS... AS I TRY TO PASS ALONG MORE OF WHAT I'VE LEARNED THE HARD WAY... AND WHAT I'VE LEARNED FROM MY FELLOW T.I. FRIENDS.

IN KEEPING WITH THE SPIRIT OF LEARNING FROM ONES OWN MISTAKES... I WOULD HIGHLY RECOMMEND USING THE FOLLOWING GUIDELINES - WHEN YOU ARE WORKING WITH YOUR CASSETTE SYSTEM.

WHEN SAVING YOUR PROGRAMS ONTO A CASSETTE - YOU SHOULD GET INTO THE HABIT OF RECORDING THEM ONTO A COUNTER READING WHICH ENDS IN A ZERO. THIS MAY SOUND LIKE AN UNNECESSARY PROCEDURE TO FOLLOW AT FIRST - BUT LET ME ASSURE YOU THAT IT IS A VERY GOOD HABIT TO GET INTO - AS IT ACTUALLY SERVES TWO USEFUL PURPOSES. FIRST... IT WILL MAKE IT MUCH EASIER TO LOCATE A PROGRAM ON YOUR CASSETTE TAPE - AS YOU ARE WATCHING THE COUNTER READING SPEED BY - AND SECOND... (AND FAR MORE IMPORTANT) IT WILL ALLOW YOU SOME ADDITIONAL BLANK SPACE BETWEEN YOUR PROGRAMS. THAT WAY YOU CAN MAKE CHANGES ON A PROGRAM - AND THEN SAVE IT BACK ONTO YOUR CASSETTE - AT THE SAME TAPE LOCATION AS THE ORIGINAL WAS LOCATED - WITHOUT ACCIDENTLY WRITING OVER THE FIRST PART OF THE FOLLOWING PROGRAM - OR THE BEGINNING OF THE PRECEEDING PROGRAM! BELIEVE ME... I LEARNED THIS THE HARD WAY. IF YOU DON'T GIVE YOURSELF A LITTLE EXTRA ROOM TO WORK WITH - YOU RUN A VERY HIGH RISK OF OVERWRITING YOUR PROGRAMS WHEN YOU TRY TO SAVE THEM BACK OVER YOUR ORIGINALS!

IF YOU HAVE A CASSETTE TAPE THAT YOU WISH TO KEEP PERMANENTLY - AND ARE AFRAID THAT YOU MAY ACCIDENTLY RECORD OVER IT - YOU CAN BREAK OUT THE LEFT REAR TAB OF THE SIDE OF THE CASSETTE THAT YOU WANT TO SAVE - OR YOU CAN BREAK OUT BOTH TABS IF YOU WISH TO SAVE BOTH SIDES OF THE CASSETTE. FOLLOWING THIS PROCEDURE WILL PREVENT YOU FROM ACCIDENTLY RECORDING OVER YOUR PROGRAMS. IF HOWEVER - YOU DECIDE AT A LATER TIME THAT YOU WOULD LIKE TO RECORD OVER A CASSETTE THAT HAS HAD ITS TABS BROKEN OUT - ALL IS NOT LOST. A PIECE OF CELLOPHANE TAPE PLACED OVER THE TAB OPENING - WILL ALLOW YOU TO ONCE AGAIN RECORD PROGRAMS ONTO THE CASSETTE.

ONE OF THE MOST IMPORTANT THINGS THAT I HAVE LEARNED ABOUT CASSETTE TAPES IS THAT IF YOU DON'T KEEP UP WITH THEM - YOU START TO COLLECT ALOT OF JUNK. THIS "JUNK" THAT I AM REFERRING TO - IS THE MANY BITS AND PIECES AND PARTS OF PROGRAMS THAT WERE SAVED WHEN YOU WERE CREATING OR USING A PROGRAM. ONCE YOUR FINAL PROGRAM IS COMPLETED - GET RID OF ALL YOUR "JUNK" SAVES! IF YOU DON'T DO IT RIGHT AWAY YOU'LL FORGET ABOUT IT - AND THE NEXT THING YOU KNOW - YOU START SAVING NEW PROGRAMS ONTO A CASSETTE THAT IS FULL OF "JUNK" - AND THEN YOU END UP HAVING TO WASTE ALOT OF VALUABLE TIME - CHECKING AN ENTIRE CASSETTE - JUST TO FIND OUT WHAT'S WHAT! ONCE A "JUNK" TAPE HAS SERVED ITS PURPOSE - RECORD OVER IT - WITH A VOLUME SETTING OF ZERO. THAT WAY THE "JUNK" WILL BE ERASED - AND YOU WON'T HAVE TO WONDER IF THAT PARTICULAR PROGRAM - OR TAPE - WAS IMPORTANT ANYMORE!

NEXT MONTH'S TOPIC WILL BE CLYDE COLLEDGE'S: HIGH-SPEED CASSETTE LOADER. THIS IS A MOST IMPRESSIVE BREAKTHROUGH FOR THOSE OF YOU WHO ARE STILL USING A CASSETTE SYSTEM. DON'T MISS IT!!!

IF YOU NEED ANY HELP OR HAVE ANY QUESTIONS CONCERNING YOUR CASSETTE SYSTEM - JUST GIVE ME A CALL (412-335-0163) AND I'LL TRY TO HELP.

MICKEY SCHMITT

```

#####
|
|          BASIC PROGRAMMING          |
|
|
#####
    
```

This month's Basic column is devoted to short routines to help you display things on the screen where you want them. (These routines originally appeared in an article by Marshall Gordon in the APCUG Call Newsletter.)

1) To center a line of text, use the following command :

```
PRINT TAB(27-LEN(A$))/2;A$
```

This will print any string called A\$ (up to 28 characters) centered on the screen. No more need to count and tab each line individually. Here is an example:

```

10 DATA OZARK, 99/4A COMPUTER, USERS GROUP, STOP
20 CALL CLEAR
30 GOSUB 5010
40 GOTO 40
5000 REM %CENTER LINES OF TEXT%
5010 REM
5020 READ A$
5030 IF A$="STOP" THEN 5100
5040 PRINT TAB(27-LEN(A$))/2;A$
5050 GOTO 5020
5100 RETURN
    
```

2) You can also TAB vertically by adding the following lines to the program above :

```

5010 CU=0
5030 IF A$="STOP" THEN 5070
5040 CU=CU+1
5070 FOR I=1 TO (24-CU)/2
5080 PRINT
5090 NEXT I
    
```

This can be used as a subprogram with the data strings anywhere in the program. The centering routine can be put at the end of your program and accessed by a "GOSUB" command. Then when you get to a place in your program that you want text to be printed and centered on the screen, all you have to do is write the strings as "DATA" statements with the last word as "STOP" and a "GOSUB" to 5100 (or whatever line your subroutine begins at) and your all set. One final word...if you want a "spacer" line between printed lines try this :

```

10 DATA OZARK, " 99/4A COMPUTER, ",
    USERS GROUP, STOP
    
```

3) Next we'll see how to write a line anywhere on the screen (like the DISPLAY AT command in XBasic). First, a word of caution. This procedure uses a 32 column screen. Those of you using TV's as monitors may not see columns 1,2,31, and 32 too well. All 24 vertical positions should be easily seen, however.

Try the following program :

```

10 CALL CLEAR
20 A$="OZARK 99'ERS "
30 ROW=10
40 COL=8
50 GOSUB 5010
60 GOTO 60
5000 REM %PRINT ON SCREEN%
5010 REM
5030 FOR I=1 TO LEN(A$)
5040 CALL MCHAR(ROW,COL+I,ASC(SEG$(A$,I,1)))
5050 NEXT I
5060 RETURN
    
```

Here is how the routine works. Line 5030 begins a FOR NEXT loop from 1 to the 'LEN'gth of A\$ (.LEN(A\$)=the number of characters in A\$). Line 5040 uses the ASC command to convert the characters in A\$ into their ASCII codes one at a time, and then print each one out on

the screen beginning at the specified position. All you need to do is define ROW, COL, and A\$ and do a GOSUB to the print routine. By the way, when you define A\$, use a space as the last character in the string. It makes the string print smoother and faster (but no one seems to know why).

Now those of you who are a little lazy (as all good programmers seem to be) may have noticed that it takes 3 lines to set up each line to be printed--one for A\$, one for ROW, and one for COL. There should be a way to do it all in one line, shouldn't there? Well, there is. What we need to do is first "pack" all of our information into a single string. For example :

```

20 A$="1008OZARK 99'ERS "
    (Delete lines 30 and 40)
    
```

But now that we've packed it, we need to be able to "unpack" it, too. The following lines will accomplish that for us. Add them to the program above.

```

5010 ROW=VAL(SEG$(A$,1,2))
5020 COL=VAL(SEG$(A$,3,2))
5030 FOR I=1 TO LEN(A$)-4
5040 CALL MCHAR(ROW,COL+I,ASC(SEG$(A$,4+I,1)))
    
```

Line 5010 takes the 'SEG'ment of A\$ beginning with the first character and counting over two characters--in this case SEG\$(A\$,1,2)="10". Then we 'VAL'ue the result and wind up with the number 10. (Remember that the string "10" cannot be used as a number. You must convert it with the VAL command first.) Then ROW=10.

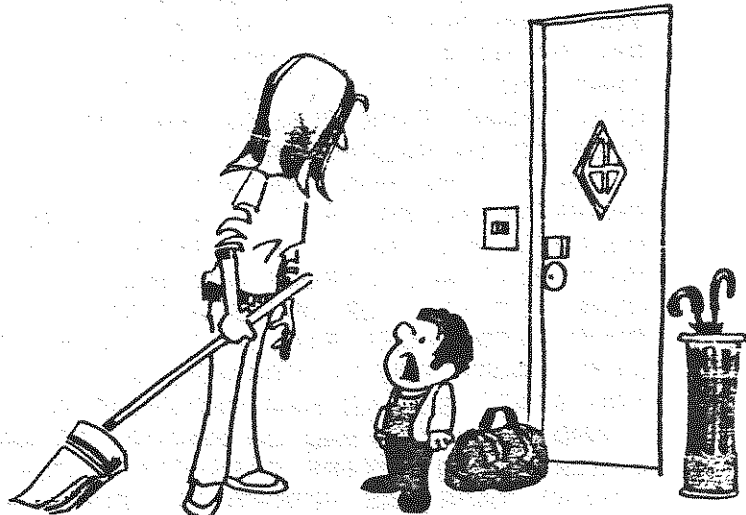
Line 5020 does the same for for the two characters of A\$ beginning with the third character (08), so COL=8.

Line 5030 is almost the same as before, but since the first four characters are not to be printed, the number of characters to print equals LEN(A\$)-4.

Line 5040 is the same as before except we begin printing at character 4+I of the string. (Remember the first time through the loop I=1, so we begin printing at character 4+1 or 5.

If you have any questions about any of these routines, be sure to talk with one of our Basic "experts" at our next meeting.

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"I was sent home from advanced computer camp for not knowing how to button my shirt."

NEXT MEETING....."TUESDAY", OCT. 21, 1986.

YES THE NEXT MEETING OF THE WEST PENN USERS GROUP WILL MOVE TO THE :

UNITED PRESBYTERIAN CHURCH  
OF THE COVENANT

LOCATED ON 4TH AND OAK STREETS IN IRWIN, PA.  
SEE THE BACK OF NEWSLETTER !!



## FANCY TEXT ON THE SCREEN

Roy T. Tamashiro

Interesting screen presentations can catch the attention of computer users and by-standers alike. The two routines below allow you to display text on the screen in a "fancy," attention-getting way. These routines are useful in creating title screens for your programs.

The first routine, CENTER BURST, makes each line of text emerge from the center of the screen, as though the letters were emerging from a geyser or a volcano. When the screen is complete, the letters "fall back" into the center of the row. The other routine, TELETYPE, displays text character-by-character like a teletype machine. The text is centered on each line, and lines are printed both left-to-right and right-to-left. The text is wiped from the screen using the same teletype action. Both routines include sound effects for dramatic effects.

To use the routines, type the CENTER BURST and TELETYPE routines and save them on cassette or disk. They may be typed and saved separately, or they may be combined into one continuous listing. When you want to include either (or both) routine(s) in your program, load the routine(s) into the computer's memory, and then add DATA statements to specify what you want displayed on the screen. The format of the DATA statements is as follows:

```
<Line Number> DATA <Screen Row Number(1-24)>,<Text>
```

For example:

```
250 DATA 1,"My Title Screen"
```

In this example, the message "My Title Screen" will appear on Row 1.

Note the following precautions: (1)The row number must be between 1 and 24; (2)The text may not be longer than 28 characters per row; and (3)Be sure no other program lines follow the CENTER BURST and TELETYPE routines.

After the last line to be displayed on the screen, add a final DATA statement with a number larger than 24 to indicate that no further lines are to be displayed on that screen. For example:

```
750 DATA 99
```

Use CALL BURST or CALL TELETYPE following your last data statement to invoke the proper routine. The FANCY TEXT DEMO listed below illustrates how this routine is carried out.

```
31000 !!!!!!!!!!!!!!!!!!!!!
31010 !: CENTER BURST :
31020 !!!!!!!!!!!!!!!!!!!!!
31030 !AUTHOR: ROY TAMASHIRO
31040 SUB BURST
31050 DIM R$(24)
31060 FOR I=1 TO 24 :: R$(I)
=" " :: NEXT I :: CALL CLEAR
31070 READ ROW :: IF ROW<25
THEN READ R$(ROW):: GOTO 310
70
31080 FOR R=1 TO 24 :: IF R$(
R)="" THEN 31160 ELSE W$=R$(
R)
31090 LLF=LEN(W$)/2 :: LRT=L
EN(W$)-LLF
31100 LEFT$=SEG$(W$,1,LLF)::
RIGHT$=SEG$(W$,LLF+1,LEN(W$
))
31110 CALL HCHAR(R,1,32,32)
31120 FOR I=0 TO LRT
31130 IF LRT-I>0 THEN DISPLA
Y AT(R,15):SEG$(RIGHT$,LRT-I
,I+1)
31140 IF LLF>1 THEN DISPLAY
AT(R,14-I)SIZE(I+1):SEG$(LEF
T$,1,I+1)
31150 CALL SOUND(-50,990,1):
: NEXT I
31160 NEXT R
31170 FOR R=1 TO 24 :: IF R$(
R)="" THEN 31300
31180 RIGHT$="" :: LEFT$=""
31190 FOR I=3 TO 16
31200 CALL GCHAR(R,I+14,B)::
CALL GCHAR(R,I,A)
31210 LEFT$=LEFT$&CHR$(A)::
RIGHT$=RIGHT$&CHR$(B)
31220 NEXT I
31230 FOR I=1 TO LEN(LEFT$)
31240 CALL SOUND(-50,-2,1)
31250 DISPLAY AT(R,15)SIZE(L
EN(RIGHT$)+1):RIGHT$;" "
31260 DISPLAY AT(R,I)SIZE(L
EN(LEFT$)+1):" ";LEFT$
31270 LEFT$=SEG$(LEFT$,1,LEN
(LEFT$)-1)
31280 RIGHT$=SEG$(RIGHT$,2,L
EN(RIGHT$)-1)
31290 NEXT I :: CALL HCHAR(R
,17,32)
31300 NEXT R
31310 SUBEND
```



```

32000 !!!!!!!!!!!!!!!
32010 !& TELETYPE &
32020 !!!!!!!!!!!!!!!
32030 !AUTHOR:ROY TAMASHIRO
32040 SUB TELETYPE
32050 DIM W$(24):: CALL CLEA
R
32060 FOR I=1 TO 24 :: W$(I)
=" " :: NEXT I
32070 READ ROW :: IF ROW<25
THEN READ W$(ROW):: GOTO 320
70
32080 FOR R=1 TO 23 STEP 2
32090 IF W$(R)=" THEN 32160
32100 START=INT(17-LEN(W$(R)
)/2)
32110 FOR C=3 TO 30
32120 CALL HCHAR(R,C,30):: C
ALL SOUND(-50,-2,1)
32130 IF C>=START AND LEN(W$
(R))>C-START THEN DISPLAY AT
(R,C-2)SIZE(1):SEG$(W$(R),1+
C-START,1):: GOTO 32150
32140 CALL HCHAR(R,C,32)
32150 NEXT C
32160 IF W$(R+1)=" THEN 322
30
32170 START=INT(16+LEN(W$(R+

```

```

1)/2):: L1=LEN(W$(R+1))
32180 FOR C=30 TO 3 STEP -1
32190 CALL HCHAR(R+1,C,30)::
CALL SOUND(-50,-2,1)
32200 IF C<=START AND L1>=(S
TART-C+1)THEN DISPLAY AT(R+1
,C-2)SIZE(1):SEG$(W$(R+1),L1
-(START-C),1):: GOTO 32220
32210 CALL HCHAR(R+1,C,32)
32220 NEXT C
32230 NEXT R
32240 FOR R=1 TO 24 STEP 2 :
: IF W$(R)=" THEN 32260
32250 FOR C=3 TO 30 :: CALL
HCHAR(R,C,30):: CALL SOUND(-
10,990,1):: CALL HCHAR(R,C,3
2):: NEXT C :: W$(R)="
32260 IF W$(R+1)=" THEN 322
90
32270 FOR C=30 TO 3 STEP -1
:: CALL HCHAR(R+1,C,30):: CA
LL SOUND(-10,990,1):: CALL H
CHAR(R+1,C,32):: NEXT C
32280 W$(R+1)="
32290 NEXT R
32300 SUBEND

```

```

100 !!!!!!!!!!!!!!!
110 !& FANCY TEXT DEMO &
120 !!!!!!!!!!!!!!!
130 !AUTHOR: ROY TAMASHIRO
140 !LANGUAGE: X-BASIC
150 !SEPTEMBER 1985
160 DATA 1,"CENTER-BURST TEX
T"
170 DATA 2,"-----
-"
180 DATA 3,"By Roy Tamashiro
"
190 DATA 7,"In this routine,
lines are"
200 DATA 8,"written from the
center of"
210 DATA 9,"the screen outwa
rd."
220 DATA 22,"Then the lines
are erased"
230 DATA 23,"back into the c
enter."
240 DATA 99
250 CALL BURST
260 DATA 1,"THE TELETYPE MAC
HINE"
270 DATA 2,"-----
----"

```

```

280 DATA 3,"By Roy Tamashiro
"
290 DATA 5,"This routine dis
plays text"
300 DATA 6,"like a teletype
machine."
310 DATA 9,"Any line 28-char
acters or"
320 DATA 10,"less is centere
d on the"
330 DATA 11,"screen on the r
ow you"
340 DATA 12,"designate."
350 DATA 21,"Then the lines
are erased."
360 DATA 99
370 CALL TELETYPE
380 END

```

Basic Basics

by

Chuck Strink

Oh, you are trying to debug a glitch in your modem bus? Try checking your DTR pin and changing duplexes. If that doesn't work, flip your floppy and boot DOS with an ASCII batch file.

If the above is a lot of gibberish, don't worry, it was written in Computerese. To help those of you new to computer lingo, I have compiled a short list of words so you can understand what those old hackers are talking about.

Back Door - A way of gaining entry to a protected program. Usually planted by the programmer.

Boot - Start up a computer system. Some computers must be booted with a disk in the drive.

Bug - A malfunction of software. Usually the fault of the programmer.

Bus - A Connector into which accessories are plugged into.

Clone - A computer that will run programs made for another computer.

Crash - Sudden failure of a program or lockup of a Computer.

Daisychain - Two or more accessories hooked together in a line or chain.

Glitch - A momentary malfunction similar to a bug but not necessarily the fault of the programmer.

Hacker - Someone who is deeply absorbed in programming.

Kludge - A sloppy design or poor solution to a problem.

Lockup - The computer refuses to respond to any command but QUIT.

There are many more terms but space will not permit me to continue at this time. Perhaps I will continue in another article. In the meantime the above list should help you understand the hackers corner conversation.

Until next .....  
.....Happy Computing

I RECEIVED THIS FLIER FROM CRAIG MILLER LAST WEEK, OFFERING A NEW "PROM" CHIP FOR THE CORCOMP CONTROLLER AND A UTILITY DISK FOR THE GRAM KRACKER. MANY OF YOU WHO DON'T ALREADY HAVE THE CORCOMP DISK CONTROLLER OR THE GRAM KRACKER MAY FIND THIS INFORMATION TO BE USEFUL IN HELPING YOU TO MAKE A DECISION ON A FUTURE PURCHASE! John Wilforth

GK UTILITY I

This Utility Disk adds the following new enhancements to TI Extended Basic and the Editor Assembler Modules for Gram Kracker Owners.

Extended Basic Enhancements:

- LIST now allows you to specify the column length (i.e. 28,132 etc.)
- RES resequence all or just part of a program.
- TRACE the output from TRACE can now be sent to a printer or any other output device.
- COPY copies a block of program lines to another location in your program.
- DEL deletes selected blocks of program lines.
- MOVE moves blocks of program lines and automatically adjusts all GOTOs, GOSUBS etc. to point to the new location.
- CALL LOAD no longer checks to see if CALL INIT has been executed.
- CALL PEEK for peaking values from GRAM or GROM addresses.
- CALL POKE for peaking values into GRAM addresses.
- CALL PEEKV for peaking values from VDP memory.
- CALL POKEV for peaking values into VDP memory.
- CALL QUITON enables use of the QUIT key.
- CALL QUITOFF disables use of the QUIT key.

New Cursor Control for program line, Inputs and Accept Ats editing. Fctn-Shift and the Up and Down arrow keys now allow you to move up and down screen rows within a program line listing on the screen. Fctn-Shift and the Left and Right arrows key move you to the beginning and end of the program line listing on the screen.

All Error Messages are now in upper and Lower case.  
 Auto-load of the file DSK1.LOAD can now be bypassed with the press of ANY key.  
 All of the XBCALLS from the MILK disk are still available (NEW, BYE, CLSALL, CLOCK, CLKOFF, CAT).  
 A new Lower case character set with better ascenders and descenders is placed in GRAM 0.

Editor/Assembler Enhancements:

For E/A input prompts, the Auto Repeat and Erase (Fctn 3) are now active.  
 Clear (Fctn 4) will erase the input line from the cursor to the end of the line.  
 Fctn-Shift Left and Right Arrow will place the cursor at the beginning and end of the input line.  
 Automatic Filename Recall - The last filename input with always be retained (even after powering off).

- 3 New items have been added to the E/A Menu:
- 6 - Extended Basic - directly executes XB without going through the Title Screen.
- 7 - Format RAMdisk - Formats the Myarc Ram disk by doing a CALL PART and CALL EPBK
- 8 - Catalog Disk - Catalogs a disk or Ram disk with out leaving the E/A module.

The GK UTILITY I can be installed as Extended Basic Enhancements only or as Extended Basic-Editor/Assembler (with the Editor and Assembler), your choice.  
 Note: with the XB-E/A combo installed, CALL EA is active from XB to directly execute the E/A module without going through the Title Screen.

The package comes complete with 22 pages of documentation including Technical Information on the locations in Gram that the new enhancements have modified so you can still add your own routines.

PROM SET

This new PROM SET enhances the usefulness of the Double Density Disk Controller Cards. The following NEW features have now been added and can be accessed from TI Basic, Extended Basic and a GRAM KRACKER MSAVED Basic program. This will allow you to build a menu of all your favorite software and load it with a single key press. These new enhancements will allow you to load any type of assembly program without using the Editor Assembler module. The new CALLS added to the card are:

1. CALL ILR - Loads the standard E/A utilities into Low Memory.
2. CALL LR("DSKx.filename") - Loads a DIS/FIX 80, compressed or uncompressed, auto start or non-auto start Assembly Language Program. (This is exactly the same as option 3 - Load and Run, on the E/A menu, including the automatic loading of the E/A utilities)
3. CALL LLR("startname") - This starts a non-auto start program. This is the same as Option 4 - Run, on the E/A menu.
4. CALL RUN("bSKx.filename") - This loads Assembly PROGRAM IMAGE files like option 5 - Run Program, on the E/A menu. This CALL also automatically sets up the E/A environment in VDP Memory. (i.e. Characters, colors, registers etc.)
5. CALL RUN - This CALL without brackets or a filename automatically loads DSK1-UTIL1.
6. DELETE "XILR" - Sets up the E/A utilities into low memory from a running Extended Basic Program. It also sets up the Link names for the above CALLS and the other Tool Shed Utilities so they can be accessed from a running program!

Some Of The Other Enhancements Include:

1. Removed "9900 Disk Controller" Title Screen !! - which eliminates the problems with some of the modules like the lock up problem with E/A, TEII and Plato.
2. Improved Error Handling on ALL utilities.
3. Decrease Error Time Out - i.e. "disk Not Initialized" now comes up faster
4. The disk Manger will now auto load if you hold down the space bar on power up or reset
5. For the advanced user we have also added a DIRECT CPU RAM SECTOR I/O ROUTINE for faster loading!!
6. For Gram Kracker Owners we have modified the Tool Shed Utilities to allow them to be used in a running MSAVED program!

CONTACT: MILLER GRAPHICS

1475 W. CYPRESS AVE.

SAN DIMAS, CA 91773

(714) 599-1431

RETAIL PRICE:

GK UTILITY I - \$10.00  
 (INCLUDES SAND H)

PROM SET - \$34.95  
 (INCLUDES SAND H)

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100 ! DISK CATALOGER
110 !
120 ! WITH 3 COLUMN PRINTOUT
130 ! AND SCREEN PREVIEW (2 OR 3 COLUMN)
140 ! BY R. P. SADUSKY
150 ! SEPT. 1986
160 ! WEST PENN 99'ERS
170 !
180 CALL CLEAR :: FOR FC=0 TO 12 :: CALL COLOR(FC,16,6):: NEXT FC
190 CALL SCREEN(6):: DISPLAY AT(2,1):"***** DISK CATALOGER *****" :: DISPLAY A
T(7,3):"* FOR PRINTER HARDCOPY *"
200 DISPLAY AT(10,3):"* OR SCREEN PREVIEWING *"
210 DISPLAY AT(15,1):"INSERT DISK IN DRIVE 1": : " (ENTER DRIVE No: 1,2,3,4)": :
" (OR "E" TO EXIT)"
220 DISPLAY AT(21,1):"THEN PRESS ENTER"
230 ACCEPT AT(15,22)SIZE(-1)VALIDATE("1","2","3","4","E")BEEP:D$
240 IF D$="E" THEN CALL CLEAR :: END
250 DISPLAY AT(24,7):CHR$(30)&" READING DISK "&CHR$(30)
260 DIM A$(127),A(127),J(127),K(127),TY$(5),P$(127)
270 TY$(1)="D/F" :: TY$(2)="D/V" :: TY$(3)="I/F"
280 TY$(4)="I/V" :: TY$(5)="P"
290 OPEN #2:"DSK"&D$&".",RELATIVE,INTERNAL,INPUT
300 INPUT #2:X$,Y$,Z
310 FOR L=1 TO 127
320 INPUT #2:A$(L),A(L),J(L),K(L)
330 IF LEN(A$(L))=0 THEN 380
340 IF ABS(A(L))=5 THEN 350
350 IF A(L)>0 THEN 370
360 P$(L)="Y"
370 NEXT L
380 CLOSE #2 :: L=L-1
390 CALL CLEAR :: DISPLAY AT(3,1):"SELECT MODE"
400 DISPLAY AT(7,3):"PRINTOUT-----"P""
410 DISPLAY AT(11,3):"SCREEN PREVIEW-----"S""
420 DISPLAY AT(15,3):"EXIT-----"E""
430 CALL KEY(0,KY,S)
440 IF S=0 THEN 430
450 IF KY=80 THEN 980 :: IF KY=83 THEN 470 :: IF KY=69 THEN CALL CLEAR :: END
460 IF KY<>69 AND 80 AND 83 THEN 430
470 L$=STR$(L):: Z$=STR$(Z)
480 DL$=D$&" DN:"&X$&" F="&L$&" A="&Z$ :: CALL CLEAR
490 DISPLAY AT(1,1):DL$
500 IF L>44 THEN 610
510 R=L/2 :: I=INT(L/2)
520 IF R=I THEN ADD2=I ELSE ADD2=I+1
530 FOR F=1 TO ADD2
540 DISPLAY AT(F+1,1):A$(F);TAB(15);A$(F+ADD2)
550 NEXT F
560 DISPLAY AT(24,1):"P=PRINTOUT D=DRIVE E=EXIT"
570 CALL KEY(0,KY,S)
580 IF S=0 THEN 570
590 IF KY=80 THEN 980 :: IF KY=68 THEN 180 :: IF KY=69 THEN CALL CLEAR :: END
600 IF KY<>68 AND 80 AND 69 THEN 570
610 R=L/3 :: I=INT(L/3)
620 IF R=I THEN ADD2=I :: ADD3=2*I
630 IF (3*I)+1=L THEN ADD2=I+1 :: ADD3=(2*I)+1
640 IF (3*I)+2=L THEN ADD2=I+1 :: ADD3=(2*I)+2
650 FOR F=1 TO ADD2
660 G$=SEG$(A$(F),1,1):: H$=SEG$(A$(F),2,1)
670 CALL HCHAR(F+1,1,ASC(G$)):: CALL HCHAR(F+1,2,ASC(H$))
680 DISPLAY AT(F+1,1):SEG$(A$(F),3,8)
690 IF (3*I)+1=L AND F=I+1 THEN 930
700 DISPLAY AT(F+1,10):A$(F+ADD2)
710 IF (3*I)+2=L AND F=(2*I)+2 THEN 930
720 DISPLAY AT(F+1,21):SEG$(A$(F+ADD3),1,8)
730 R$=SEG$(A$(F+ADD3),9,1):: S$=SEG$(A$(F+ADD3),10,1)
740 IF R$="" THEN 750 :: CALL HCHAR(F+1,31,ASC(R$)):: IF S$="" THEN 750 :: CALL
HCHAR(F+1,32,ASC(S$))
750 IF L>69 AND F=21 THEN DISPLAY AT(24,1):"PRESS SPACE BAR TO CONTINUE" ELSE 92
0
760 CALL KEY(0,KY,S)
770 IF S=0 THEN 760
780 IF KY=32 THEN 790 ELSE 760
790 CALL HCHAR(2,1,32,736)
800 IF ADD2=I THEN R=ADD2-F ELSE R=ADD2-F+1
810 FOR H=2 TO R :: F=F+1
820 G$=SEG$(A$(F),1,1):: H$=SEG$(A$(F),2,1)
830 CALL HCHAR(H,1,ASC(G$)):: CALL HCHAR(H,2,ASC(H$))
840 DISPLAY AT(H,1):SEG$(A$(F),3,8)
850 IF (3*I)+1=L AND F=I+1 THEN 930
860 DISPLAY AT(H,10):A$(F+ADD2)
870 IF (3*I)+2=L AND F=(2*I)+2 THEN 930
880 DISPLAY AT(H,21):SEG$(A$(F+ADD3),1,8)

```

```

890 R$=SEG$(A$(F+ADD3),9,1):: S$=SEG$(A$(F+ADD3),10,1)
900 IF R$="" THEN 910 :: CALL HCHAR(H,31,ASC(R$)):: IF S$="" THEN 910 :: CALL HC
HAR(H,32,ASC(S$))
910 NEXT H :: GOTO 930
920 NEXT F
930 DISPLAY AT(24,1):"P=PRINTOUT D=DRIVE E=EXIT"
940 CALL KEY(0,KY,S)
950 IF S=0 THEN 940
960 IF KY=80 THEN 980 :: IF KY=68 THEN 180 :: IF KY=69 THEN CALL CLEAR :: END
970 IF KY<>68 AND 80 AND 69 THEN 940
980 R=L/3 :: I=INT(L/3)
990 IF R=I THEN ADD2=I :: ADD3=2*I
1000 IF (3*I)+1=L THEN ADD2=I+1 :: ADD3=(2*I)+1
1010 IF (3*I)+2=L THEN ADD2=I+1 :: ADD3=(2*I)+2
1020 OPEN #1:"PID",SEQUENTIAL,OUTPUT,VARIABLE 132
1030 PRINT #1:CHR$(15)! condensed print
1040 PRINT #1:"! DSK":D$;" DISKNAME: ";X$;" FILES=";L;" AVAILABLE=";
Z$;" USED=";Y-Z;TAB(82);"!;"
1050 PRINT #1:"! FILENAME SIZ TYPE P ! FILENAME SIZ TYPE P ! FILENAME
SIZ TYPE P !;"
1060 PRINT #1:"! _____ - - - - - ! _____ - - - - - ! _____
- - - - - !;"
1070 FOR F=1 TO ADD2
1080 PRINT #1:"! ";A$(F);TAB(14);
1090 PRINT #1,USING "###":J(F);
1100 PRINT #1:TAB(18);TY$(ABS(A(F)));K(F);TAB(26);P$(F);TAB(28);"!";
1110 IF (3*I)+1=L AND F=ADD2 THEN PRINT #1:TAB(55);"!";TAB(82);"!"; GOTO 1210
1120 PRINT #1:TAB(30);A$(F+ADD2);TAB(41);
1130 PRINT #1,USING "###":J(F+ADD2);
1140 PRINT #1:TAB(45);TY$(ABS(A(F+ADD2)));K(F+ADD2);TAB(53);P$(F+ADD2);TAB(55);"
!";
1150 IF (3*I)+2=L AND F=ADD2 THEN PRINT #1:TAB(82);"!"; GOTO 1210
1160 PRINT #1:TAB(57);A$(F+ADD3);TAB(68);
1170 PRINT #1,USING "###":J(F+ADD3);
1180 PRINT #1:TAB(72);TY$(ABS(A(F+ADD3)));K(F+ADD3);
1190 PRINT #1:TAB(80);P$(F+ADD3);TAB(82);"!";
1200 NEXT F
1210 PRINT #1: :: CLOSE #1
1220 CALL CLEAR :: GOTO 180

```

THIS N'THAT.....

IN THIS NEWSLETTER, YOU WILL FIND A QUESTIONAIRE ON THE INTERESTS THAT YOU HAVE WITH THE THINGS RELATING TO THE T.I., THAT YOU MAY BE ABLE TO HELP OTHERS WITH, SUCH AS A PROGRAMMING LANGUAGE, HARDWARE, OR A SOFTWARE PACKAGE SUCH AS MULTI-PLAN OR T.I. WRITER. IF YOU WISH TO BE OF HELP IN THIS WAY, SEND IT OR DELIVER TO THE MEETING, YOUR AUTHORIZATION TO PUBLISH LIST FOR ALL MEMBERS TO MAKE USE OF YOUR TALENT, OR SKILL.

WE HAVE ORDERED ANOTHER 500 DISKETTES, WHICH SHOULD BE AT THE NEXT MEETING FOR YOU TO PURCHASE. I BELIEVE THE PRICE TO BE 40¢ FOR A DSDD DISK. THAT'S ONLY \$4.00 FOR A BOX OF 10 !! I CAN'T BELIEVE HOW CHEAP THEY ARE.

WE WILL HAVE NOMINATIONS FROM THE FLOOR FOR OFFICERS TO SERVE THE WEST PENN 99'ERS FOR THE 1987 YEAR, STARTING JANUARY. ELECTION AT NOV. MEETING.

THE LIBRARY IS OPERATING, AND FOR THOSE OF YOU WHO ARE ABLE TO ATTEND THE MEETING, THERE WILL BE 7 CASSETTE SERIES' AND 15 DISKETTE SERIES' TO SELECT FROM. THE CASSETTES AND DISKETTES WILL BE \$2.00 EACH, AND EACH HAVING A LOT OF PROGRAMS ON THEM. THE LIBRARY WILL BE IN OPERATION AT 6:45 PM. UNTIL THE MEETING STARTS AT 7:00 PM. FOR THOSE WHO CANNOT GET TO THE MEETINGS WE WILL TAKE CALLS AND SEND THEM TO YOU FOR A MINIMAL POST-AGE CHARGE, AND WE HOPE TO NOW BE ABLE TO PRINT OUT A CATALOG LISTING BY THE NEXT NEWSLETTER.

LEST I FORGET, GENE KELLY OR CLYDE COLLEDGE WILL TEACH THE ASSEMBLY CLASS AT 8:30 AND THERE WILL BE A RAP SESSION DEALING WITH GENERAL SOFTWARE PROBLEMS RUNNING AT ABOUT THE SAME TIME.

THERE WILL BE NEWSLETTERS FROM OTHER CLUBS AVAILABLE AT THE MEETING TO BE SIGNED OUT FOR A PERIOD OF A MONTH, AND YOU MAY HAVE UP TO 10 OF THESE TO READ AT A TIME. I WILL KEEP TRACK OF THEM FOR THE TIME BEING, UNTIL WE DECIDE A BETTER WAY TO HANDLE THEM.

JOHN F. WILLFORTH (412) 527-6656