CEDAR VALLEY 99'ER USER GROUP
NEWSLETTER

JANUARY 1988
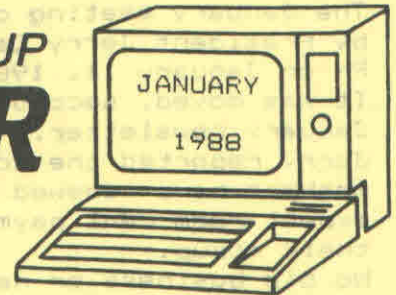
CEDAR RAPIDS/MARION, IOWA

****

OFFICERS

PRESIDENT:	VICE PRESIDENT:	SECRETARY:	TREASURER:
Jerry Canady	Bruce Winter	Bill Paeth	Jim Harrington
6616 Kent Dr. NE	702 Fernwood Dr. NE	923 Owen St. NW	4420 Tama St. SE #15
Cedar Rapids Iowa 52402	Cedar Rapids, Iowa 52402	Cedar Rapids, Iowa 52405	Marion, Iowa 52302
(319) 377-9382 (Home) or	(319) 393-0610	(319) 396- 6470	(319) 377-1865
(319) 395-2494 (Office)			

COMMITTEES

PROGRAM:	PUBLICITY:	EDUCATION:	EDITOR:
Ed Edwards	Paul Mortensen	John Johnson	Jim Green
102 N. Davis St.	3179 Country Park Dr.	398 Forest Dr. SE	288 Windsor Dr. NE
Anamosa, Iowa 52205	Toddville, Iowa 52341	Cedar Rapids, Iowa 52403	Cedar Rapids, Iowa 52402
	393-6022	366-4541	377-4073 (Home) or
			395-1898 (Office)

****NEWSLETTER TOPICS****

1. Future Meeting Dates
2. Next Meeting Notes
3. Minutes From January Meeting
4. Wanted / For Sale
5. Keyboard Changeover
6. Tips from the Tigercub #46
7. From the Mailbox

Forgot to renew?

This is your last issue!!

****FUTURE MEETING DATES****

Please mark the following dates on
your calendar for future meetings:
FEBRUARY 8, MARCH 7, APRIL 11.

********NEXT MEETING********

This month's meeting will be held
on February 8, 7:00 PM at the JA
Building, 330 Collins Road NE, Cedar
Rapids. The assembly language class
will continue, and we will share some
new software and other surprises.

* MINUTES FROM THE JANUARY MEETING *

The January meeting of the Cedar Valley TI 99er User Group was called to order by President Jerry Canady. Fourteen members and one visitor were present at 7 PM on January 11, 1988.
It was moved, seconded, and passed to accept the minutes as reported in the January newsletter. Treasurer Jim Harrington was unavailable for the meeting. Jerry reported the account balances that Jim had phoned to him. More than 20 members have renewed for 1988 membership. Jerry also stated that J.A. will not expect room rent payment for the small conference room used in December, due to their mixup.
No old business or new business was reported.
DISCUSSION -- An answer to a question raised several months ago by Rev. Richard Watters finally surfaced. His question was about the "availability of source books on LOGO II". He found his own answer in a catalog he has obtained. Several of the membership copied information from it. If anyone else wants this information, please contact Rev. Watters.
Gary Bishop told about his holiday visits to Tenex Co. in South Bend, Ind. and to Bud Mills Services in Toledo. Details will be written by Gary later.
The club is now out of bulk disks for sale. A poll of the members present resulted in the purchase of 200 new disks. Moved, seconded, passed. These will be ready for membership purchase soon.
Meeting adjourned.
The demo of the evening was by Jim Reiss, of some high resolution pictures he had downloaded from various bulletin boards. He used his new Geneve to demonstrate. Thanks. Jim.
The assembly language class followed the evening's program. Thanks, John.

                              Submitted by Bill Faeth, Secretary

* * *WANTED/FOR SALE* * *

Wanted: Schematic or assembler source code with comments for TI Disk Drive controller. I have and will swap: Percomm TX-79 schematics and PROM dump, much other technical documents, schematics, articles. I have some strange and bizarre stuff on speech synthesizers, 9900 series chips, sound chip, VDP, etc. Also have manuals for Tandon and Shugart disk drives.
Also looking for ideas, listings, etc. for connecting a hard disk to the TI. I have the hard disk and a Shugart controller.

I have been put into contact with a person that has a system for sale. He has the black and silver console/modulator/power transformer, with original manuals and material, and a copy of the technical data for the console. In addition, he has TI Extended Basic, and Minimemory cartridges. He also has ham hardware and software that I want. He doesn't want to split up the system. I am looking for someone that would want the console cartridges, so I can get the ham stuff. He is asking $100, plus shipping, but I feel a deal could be worked. I propose to split this 50/50. If interested, please contact me. Gary D. Bishop, 319-377-9574 after 5 PM.

For Sale: Console/Modulator/Power Transformer, with Home Budget, Poker, Music Maker, and Munchman cartridges, $50. Call Judy at 396-6034 afternoons.

DRIVE DESIGNATIONS

* * *KEYBOARD CHANGEOVER* * *
by GARY BISHOP

This is a continuation of a previous article on attaching a more useful
keyboard to the computer with minimal modifications to the TI. This
means only the present keyboard connections are all that is required, other
than possibly power and ground for any logic required. Later, I will describe
a method to use a PROM to provide more options in an external keyboard. This
PROM method will not be a construction article, but ideas on how to get the job
done. It will require access to a PROM blower and eraser, along with some work
on your part to provide the data.

Several people have contacted me concerning my previous article. It appears
this method of attaching a keyboard to the TI is attractive to quite a few.
This article will improve upon my previous article, and finish the attachment
of a full featured keyboard with minimal logic and wiring. I have chosen to
use very simple gates and diode logic. This is not the most elegant solution,
but is easy to understand and expand, once you grasp the way I am going about
it. I have opted for using only two IC types that are easy to obtain and work
with. This keeps the sophistication down, along with the price.

The keyboard I use is an IBM replacement keyboard. This has contacts on the
keys, just like any other switch. You must be careful when you purchase your
keyboard, because the original IBM and many replacement keyboards use
capacitive sensors instead of switches. This has the advantage that dirt will
not affect them, but you need special circuits that are not compatible with
the TI to make them work. I used a 25 pin connector on the side of the TI and
the back of the keyboard to make the interconnections. We will have use for
almost all 25 lines, even though the TI matrix only needs 15 of them. Other
fancies will require them. I recommend to reduce wiring errors, make the first
15 pins on the connectors the same as the TI keyboard pinfield.

I obtained a defective IBM keyboard, and the defect was in the microprocessor
portion. This is removed anyway for our modifications. Make sure the problem
with the keyboard you get is not in any of the keys. This means you may have
to ohm out each key to check it. Better to find out now than after you wire up
the entire keyboard.

Also, I will present each part of the picture seperately, and not provide one
overall schematic. This is because you need to pick and choose which portions
you want to implement, depending upon the type of keyboard you have and the
number of fancies you want. This also doesn't overwhelm the casual reader.

First, a slight rework on my previous article. I approached that from a rather
limited perspective. I didn't plan ahead to see that some of the previously
described logic was duplicated. Figure 1 is a repeat of the diode logic
needed to provide the new function-1 thru fcn-5 keys. Also, the 74LS04
inverters are shown here. Figure 2 is for reference, so you can see how we are
connecting the keys up. The outputs of the inverters are used in all the other
key combinations, and will be referred to by the original pin number the signal
came from, with a bar over it. This is standard notation to show an inversion
of a signal. All inputs will be on the left side of the drawings, and all
outputs on the right side, also standard notation. Finally, I will not
interconnect all outputs required on the right side. You must realize that all
outputs with the same number pin are connected together and run to the original
TI keyboard connector. This greatly reduces the confusion in presenting these
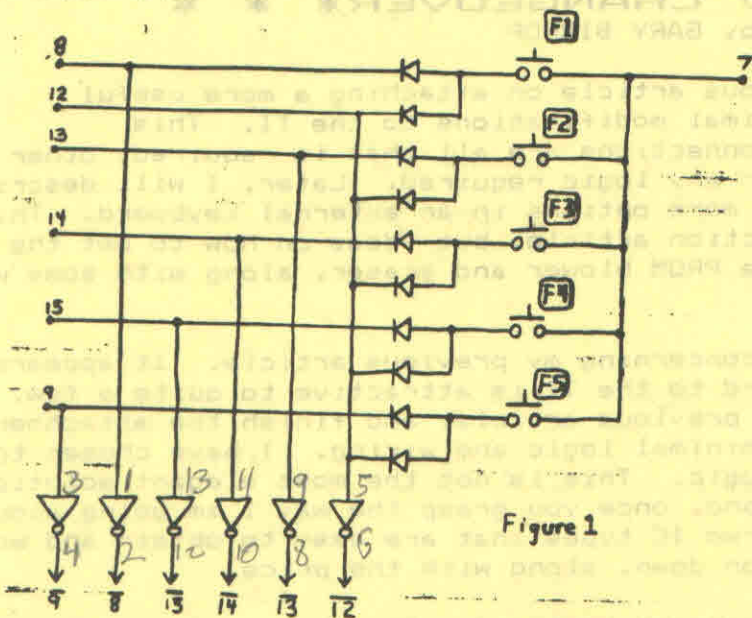schematics.

* * *KEYBOARD CHANGEOVER* * * *
by GARY BLOFF

Figure 1

Figure 2

PINS OUT \ IN	8	13	14	15	9	12	6
7	1	2	3	4	5	FCN	ALPHA LOCK
10	Q	W	E	R	T	CTL	
3	A	S	D	F	G	SHF	
11	Z	X	C	V	B		
2	Ø	9	8	7	6		
1	P	O	I	U	Y	ENT	
4	;	L	K	J	H	SPACE	
5	/	.	,	M	N	=	

Figure 3 is the schematic for providing a function key replacement that can be used by any number of other key combinations. The signal called "FCN" is carried thru to the rest of the circuits. This line can be used for two purposes. If we need to know if the function key is pressed, this line will tell us. The line will be low or at near zero volts if the function key or circuit is deenergized. The line will be at +5 volts if the function key is pressed, or if the circuit is energized. This is a bidirectional line, because we can use it for either input or output. On my replacement keyboard, I didn't have a key called "function," so I used the "ALT" key for that.

This same type of circuit is duplicated to provide the shift "SHF" and control "CTL" signals. Notice on the "SHF" section that an extra inverter is used. Many keys we will encode later will need to have both lines, so it makes sense to put it here. It makes for one whole extra IC package just to get this single inverter, but it will be worth it. Remember to tie any unused inputs on this and other IC's to +5 thru a 10K resistor for safety. See figure 4.
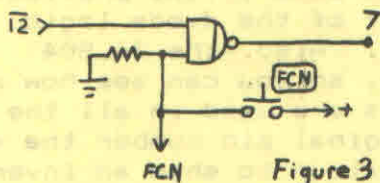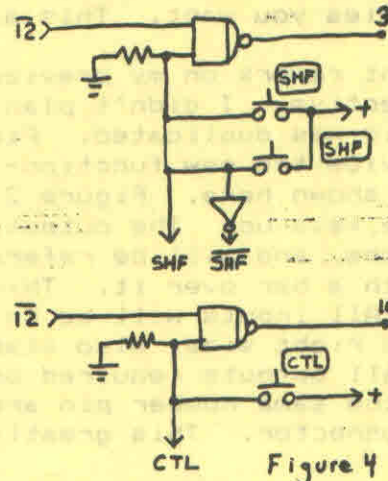

Figure 3

Figure 4

At this point, we haven't encoded any new keys yet. The first ones presented are the additional function keys, FCN-6 thru FCN-0. These will replace the method used in my previous article. The idea is identical. I just didn't see the duplication of several gates. That is fixed here. See figures 5 to 10.
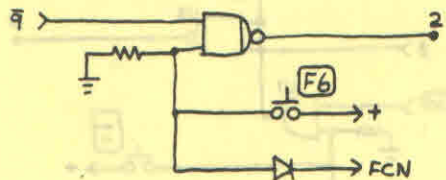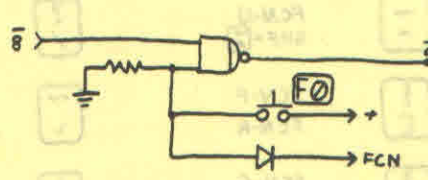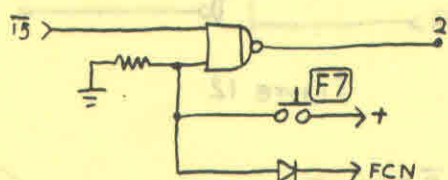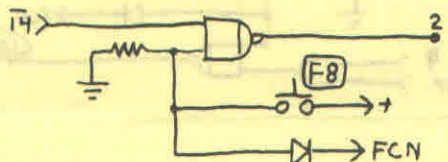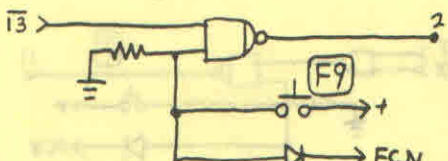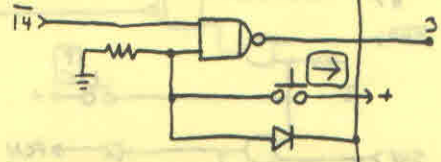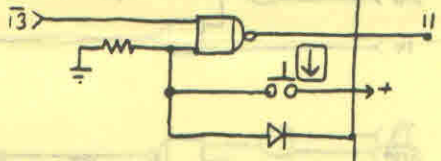
Figure 5

Figure 6
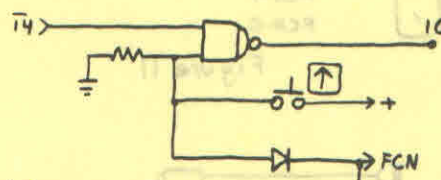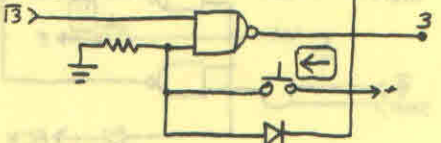
Figure 7

Figure 8

Figure 9

Figure 10

Now, let's forge new ground. Figure 11 is a chart of the keys as they appear on our new keyboard, and a list of what combinations of TI keys it takes to make that. There are several combinations involved, so pay close attention to this chart. I should say right here that all the other keys not mentioned explicitly in my article are just wired the same way that TI has them now. This means the "A" key connects between pins 3 and 8, "B" goes between pins 11 and 9, etc. I recommend that when you start running the wire from pin 3 connect it to all the keys at once, such as one side of the "A","S","D","F", "G",and your two "SHF" keys. This will help minimize wiring errors.

I will describe the "- _" (our new minus,underscore key, no this is not FORTH) key in detail, but then present the rest of the circuits without explanation. This is the most complicated key to visualize , so if you can follow me here, the rest is easy.

Figure 12 is the "- _" key schematic. Our new key has two outputs depending upon if our new keyboard shift key is held down. Unshifted, we want the output to be a minus sign. The TI expects the "-" to be holding down the old shift key and pressing the "-" key. This makes two sets of connections. The first

is pins 12 to 3 for the SHF, and then pins 8 to 5 for the actual "-" key. Our
replacement key must duplicate both these connections.

NEW KEY	TI KEYS		NEW KEY	TI KEYS
SHIFTED — UNSHIFTED -	FCN-U SHF-7		? /	FCN-I /
{ [	FCN-F FCN-R		~ \	FCN-W FCN-C
: ;	FCN-G FCN-T		!		FCN-A FCN-Z
" '	FCN-P FCN-O			

Figure 11
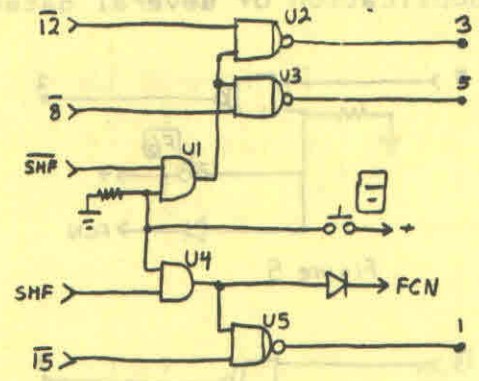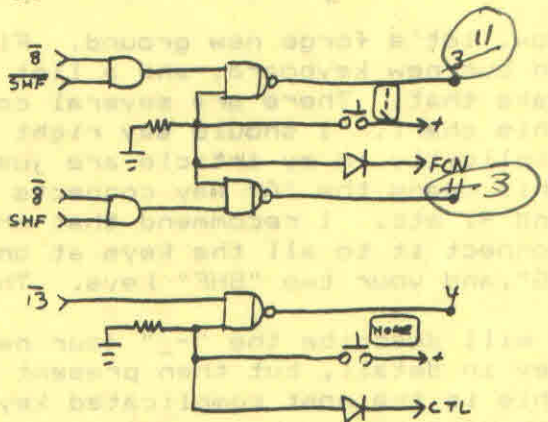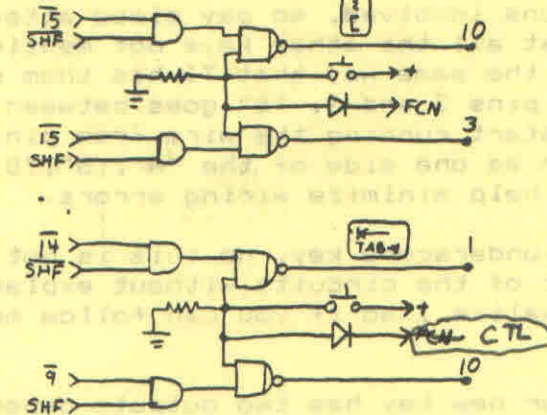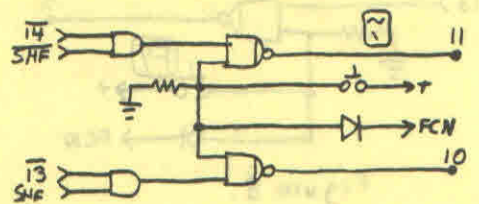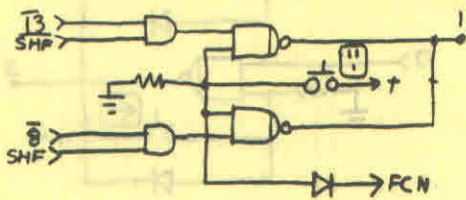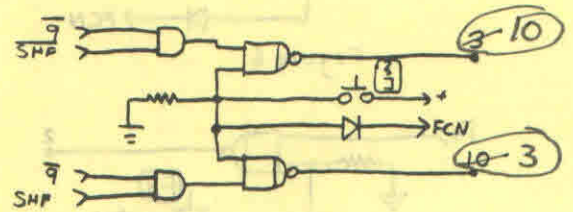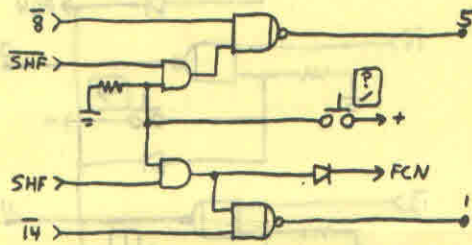
Figure 12

TIPS FROM THE TIGER CUB

46

Copyright 1987

TIGERCUB SOFTWARE
156 Collingwood ave.
Columbus, OH 43213

Distributed by Tigercub Software to TI-99/4A users Groups for promotional purposes and in exchange for their newsletters. May be reprinted by non-profit users groups, with credit to Tigercub Software.

Over 130 original programs in Basic and Extended Basic, available on cassette or disk, NOW REDUCED TO JUST $1.00 EACH!, plus $1.50 per order for cassette or disk and PP&M. Minimum order of $10.00. Cassette programs will not be available after my present stock of blanks is exhausted. The Handy Dandy series, and Color Programming Tutor, are no longer available on cassette. Descriptive catalogs, while they last, $1.00 which is deductable from your first order.

Tigercub Full Disk Collections, reduced to $5 postpaid. Each of these contains either 5 or 6 of my regular 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 - they are a free bonus!
TIGERCUB'S BEST, PROGRAMMING 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, VOCAB-

ULARY and READING, MUSICAL EDUCATION, KALEIDOSCOPES AND DISPLAYS

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. Reduced to $15.00 postpaid.
NUTS & BOLTS NO. 2, another full disk of 108 utility subprograms in merge format, all new and fully compatible with the last, and with 10 pages of documentation and examples. Also $15 postpaid.

#####################################
NUTS & BOLTS #3 is now
ready, another full disk
of 140 new merge-format #
utility subprograms, all
compatible with the pre-
vious. With 11 pages of
documentation, $15 ppd.
#####################################

TIPS FROM THE TIGERCUB, a full disk containing the complete contents of this newsletter Nos. 1 through 14, 50 original programs and files, reduced to $10 ppd.
TIPS FROM THE TIGERCUB VOL. 2, another diskfull, complete contents of Nos. 15 through 24, over 60 files and programs, also just $10
TIPS FROM THE TIGERCUB VOL. 3, another 62 programs, tips and routines from Nos. 25 through 32, $10 postpaid.
TIPS FROM THE TIGERCUB VOL. 4, another 48 programs and files from issues 33 through 41, also $10 postpaid.

TIGERCUB CARE DISKS #1, #2 & #3, three full disks of text files, mostly of lessons on programming in XBasic, $5 per disk postpaid.

This one is explained in lines 180-190. I think that it will run on any Gemini printer.

```
100 Dim B(25,12),B$(25),CH$(12),L$(12)
110 GOTO 150
120 S,K,T$,C$,V,J,A,CH$(),I,X$,B$(),B(I,J),T,M,Q$,L$(),C,C1$,C2$,L,M$
130 CALL CLEAR :: CALL COLOR :: CALL SCREEN :: CALL CHAR :: CALL KEY :: CALL NUMTH
140 !@P-
150 !SEGMENTED BAR GRAPH
      by Jim Peterson 10/87
160 CALL CLEAR :: FOR S=1 TO 12 :: CALL COLOR(S,2,8):: NEXT S :: CALL SCREEN(5):: DISPLAY AT(3,10):"TIGERCUB" :: DISPLAY AT(5,6):"SEGMENTED BAR GRAPH"
170 CALL CHAR(95,"3C4299A1A199423C"):: DISPLAY AT(7,12):"_ 1987" :: DISPLAY AT(9,2):"For free distribution but no":"price or copying fee may be":"charged."
180 DISPLAY AT(14,2):" Will output to a Gemini":"printer a horizontal bar-":"graph of up to 25 bars, each":"segmented into up to 12"
190 DISPLAY AT(18,1):"values, with a title for":"each and optionally with a":"table of identification of":"the segment symbols."
200 DISPLAT AT(24,8)"" :: DISPLAY AT(24,8):"PRESS ANY KEY" :: CALL KEY(0,K,S):: IF S=0 THEN 200
210 ON WARNING NEXT
220 DISPLAY AT(12,1)ERASE ALL:"GRAPH TITLE?" :: ACCEPT AT(14,1):T$ :: T$=RPT$(" ",17-LEN(T$)/2)&T$ :: C$=CHR$(27)
230 DISPLAY AT(16,1):"HOW MANY SEGMENTS PER BAR?" :: ACCEPT AT(16,27)VALIDATE(DIGIT)SIZE(2):V :: IF V=0 OR V>12 THEN 230
240 !@P+
250 DATA 239,229,168,251,173,175,184,236,169,250,160,207
260 !@P-
270 FOR J=1 TO V :: READ A :: CH$(J)=CHR$(A):: NEXT J
280 DISPLAY AT(3,1)ERASE ALL:"Type END when finished"
290 X=X+1 :: IF X>25 THEN 330
300 CALL NUMTH(X,X$):: DISPLAY AT(12,1):"Title of "&X$&" bar?" :: ACCEPT AT(14,1):B$(X):: IF B$(X)="END" OR B$(X)="end" THEN 330
310 FOR J=1 TO v :: CALL NUMTH(J,X$):: DISPLAY AT(16,1):X$&" segment value?" :: ACCEPT AT(18,1)VALIDATE(NUMERIC):B(X,J):: T=T+B(X,J):: NEXT J
320 M=MAX(M,T):: T=0 :: GOTO 290
330 X=X-1 :: DISPLAY AT(20,1):"Print labels? Y/N" :: ACCEPT AT(20,19)VALIDATE("YN")SIZE(1):Q$ :: IF Q$="N" THEN 350
340 FOR J=1 TO V :: CALL NUMTH(J,X$):: DISPLAY AT(22,1):X$&" label?" :: ACCEPT AT(24,1):L$(J):: NEXT J
350 C=120/M :: C1$=C$&"B"&CHR$(1)&C$&"6"&C$&"E" :: C2$=C$&"B"&CHR$(3)
360 OPEN #1:"PIO",VARIABLE 255 :: PRINT #1:C$&"@" :: PRINT #1:C$&"E"&C$&"6"&C$&"M"&CHR$(6)
370 PRINT #1:CHR$(14)&T$&CHR$(20):"":RPT$(CHR$(299),70):;: :: PRINT #1:C$&"3"&CHR$(10)
380 FOR J=1 TO X :: PRINT #1:B$(J)&C2$ :: FOR L=1 TO V :: M$=M$&RPT$(CH$(L),INT(B(J,L)&C+.5)):: NEXT L
390 PRINT #1:RPT$(CHR$(232),LEN(M$)):: PRINT #1:M$ :: PRINT #1:M$ :: PRINT #1:RPT$(CHR$(231),LEN(M$))
400 M$="" :: PRINT #1:C1$:;: NEXT J :: IF Q$="N" THEN STOP
410 PRINT #1:"":""
420 FOR J=1 TO V :: PRINT #1:C2$&RPT$(CHR$(232),10):: PRINT #1:RPT$(CH$(J),10)&C1$&"  "&L$(J):: PRINT #1:C2$&RPT$(CH$(J),10):: PRINT #1:RPT$(CHR$(231),10):: NEXT J
430 !@P+
440 SUB NUMTH(N,N$):: IF FLAG=1 THEN 520 :: FLAG=1 :: RESTORE 460
450 GOTO 480
```

```
460 J,ONE$(),TEEN$(),TEN$(),
N,M$
470 !@P-
480 DATA first,second,third,
fourth,fifth,sixth,seventh,e
ighth,ninth,tenth
490 DATA eleventh,twelfth,th
irteenth,fourteenth,fifteent
h,sixteenth,seventeenth,eigh
teenth,nineteenth
500 DATA twenty,THIRTY,FORTY
,FIFTY,SIXTY,SEVENTY,EIGHTY,
NINETY
510 FOR J=1 TO 10 :: READ ON
E$(J):: NEXT J :: FOR J=1 TO
 9 :: READ TEEN$(J):: NEXT J
 :: FOR J=2 TO 9 :: READ TEN
$(J):: NEXT J
520 IF N<11 THEN M$=ONE$(N):
: SUBEXIT
530 IF N<20 THEN M$=TEEN$(N-
10):: SUBEXIT
540 IF N/10=INT(N/10)THEN M$
=SEG$(TEN$(N/10),1,LEN(TEN$(
N/10))-1)&"ieth" :: SUBEXIT
550 M$=TEN$(INT(N/10))&"-"&O
NE$((N/10-INT(N/10))$10)
560 !@P+
570 SUBEND

    And  a little something
educational -

100 DIM M$(100)
110 GOTO 150
120 S,J,M$(),A$,Z$,K,M$(),X,
Y,ADV$,A,Q$
130 CALL CLEAR :: CALL COLOR
:: CALL SCREEN :: CALL CHAR
:: CALL KEY :: CALL ADVERB
:: CALL SOUND
140 !@P-
150 CALL CLEAR :: FOR S=0 TO
 12 :: CALL COLOR(S,2,8):: N
EXT S :: CALL SCREEN(5):: DI
SPLAY AT(3,2):"ADJECTIVE TO
ADVERB V.1.3"
160 CALL CHAR(64,"3C4299A1A1
99423C"):: DISPLAY AT(5,6):"
@ Tigercub Software":;:" For
 free distribution with  no
charge or copying fee."
170 FOR J=1 TO 100 :: READ M
$(J):: A$=A$&CHR$(J):: NEXT
J :: Z$=A$ :: CALL KEY(3,K,S
)
180 M$(1)=" If adjective end
s in Y,    change the Y to
ILY." :: M$(2)=" If adjectiv
e ends in C,    add ALLY."
```

```
190 M$(3)=" If adjective end
s in LL,    just add Y."
200 M$(4)=" If adjective end
s in LE,    preceded by a con
sonant,    drop the E and ad
d Y."
210 M$(5)=" If the word ends
 in E    preceded by a con
sonant,    preceded by a vow
el,  just    add LY."
220 M$(6)=" This word is an
exception  to the rule - the
 adverb is WHOLLY."
230 M$(7)=" If the adjective
  does not  end in C,E,LL or
 Y, always  just add LY."
240 M$(8)=" This is an excep
tion to the rule. The prefer
red adverb  form is DRYLY."
250 M$(9)=" If the adjective
 ends in E  preceded by a vo
wel, drop  the E and add LY
."
260 M$(10)=" If the adjectiv
e ends in E preceded by a co
nsonant    other than L, ad
d LY."
270 RANDOMIZE :: X=INT(RND$L
EN(Z$)+1):: Y=ASC(SEG$(Z$,X,
1)):: Z$=SEG$(Z$,1,X-1)&SEG$
(Z$,X+1,255):: IF LEN(Z$)=0
THEN Z$=A$
280 ACCEPT AT(24,1):M$(Y)
290 CALL ADVERB(M$(Y),ADV$,A
)
300 DISPLAY AT(12,1):" Type
the adverb form of -" :: DIS
PLAY AT(15,1):M$(Y):: DISPLA
Y AT(18,10):"" :: ACCEPT AT(
15,15)BEEP:Q$
310 IF Q$=ADV$ THEN DISPLAY
AT(18,10):"CORRECT!" :: GOTO
 240
320 CALL SOUND(100,110,5,-4,
5):: DISPLAY AT(20,1):M$(A):
"":"" :: GOTO 300
330 !@P+
340 DATA DUE,COOL,SOLE,STOIC
,FRANTIC,COMIC,ABLE,FULL,POO
R,HANDY,SORE,SOCIAL,PENAL,SL
OW,HIGH,LOW
350 !@P-
360 DATA FRISKY,PLAYFUL,HEAL
THY,ROUGH,BUSY,SILLY,SICK,SM
ART,SORE,FAIR,ANGRY,BARE,TIR
ED,WISHFUL,ACTUAL
370 DATA HASTY,LONE,HECTIC,O
FFICIAL,MAGIC,MAGICAL,MATHEM
ATIC,LOGIC,TRAGIC,PATHETIC,T
RAUMATIC
```

```
380 DATA DRAMATIC,AUTOMATIC,
AROMATIC,EQUAL,SERIAL,BASIC,
USUAL,FAVORABLE,UNSTABLE,LEG
IBLE
390 DATA HECTIC,LIVE,WARY,VI
SIBLE,TERRIBLE,HORRIBLE,VIVI
D,FANCY,EASY,VILR,WICKED,BLO
ODY,SHODDY
400 DATA NOBLE,HAPPY,LEGAL,M
ERRY,JOLLY,CRAZY,CASUAL,CARE
FUL,FOOLISH,FAMOUS,GAY,GUILT
Y
410 DATA HOPEFUL,HATEFUL,TIM
ID,BRAVE,BEAUTIFUL,DRY,NICE,
LARGE,PAINFUL,SINFUL,SORROWF
UL,SIMPLE,WILLFUL
420 DATA MENTAL,MORAL,PALE,W
HOLE,HUNGRY,FINAL,FORMAL,TRU
E,AMPLE,DOUBLE
430 !@P+
440 SUB ADVERB(M$,ADV$,A)::
L=LEN(M$):: E$=SEG$(M$,L,1):
: F$=SEG$(M$,L-1,2):: G$=SEG
$(M$,L-1,1):: P$=SEG$(M$,I,L
-1):: H$=SEG$(M$,L-2,1)
450 IF ASC(SEG$(M$,1,1))<97
THEN A$="ALLY" :: I$="ILY" :
: L$="LY" :: Y$="Y" :: V$="A
EIOU" ELSE A$="ally" :: I$="
ily" :: L$="ly" :: Y$="y" ::
460 IF M$="WHOLE" THEN ADV$=
"WHOLLY" :: A=6 :: SUBEXIT
470 IF M$="DRY" THEN ADV$="D
RYLY" :: A=8 :: SUBEXIT ELSE
 IF F$="LL" OR F$="ll" THEN
ADV$=M$&Y$ :: A=3 :: SUBEXIT
480 IF E$="C" OR E$="c" THEN
 ADV$=M$&A$ :: A=2 :: SUBEXI
T ELSE IF E$="Y" OR E$="y" T
HEN ADV$=P$&I$ :: A=1 :: SUB
EXIT
490 IF E$<>"E" AND E$<>"e" T
HEN 530
500 IF G$="L" OR G$="l" THEN
 IF POS(V$,H$,1)<>0 THEN ADV
$=M$&L$ :: A=5 :: SUBEXIT EL
SE ADV$=P$&Y$ :: A=4 :: SUBE
XIT
510 IF POS(V$,G$,1)<>0 THEN
ADV$=P$&L$ :: A=9 :: SUBEXIT
520 IF POS(V$,SEG$(M$,L-2,1)
,1)=0 THEN ADV$=M$&L$ :: A=1
0 :: SUBEXIT ELSE ADV$=M$&L$
 :: A=5 :: SUBEXIT
530 ADV$=M$&L$ :: A=7 :: SUB
END

100 ! MOCKINGBIRD TINYGRAM by
    Jim Peterson. Tap your
    tune on the 1 to 0 keys
```

```
' (tuned A through C)
110 !Then press any other
    key to hear it repeated
120 DATA 220,247,262,294,330
,349,392,440,494,523
130 FOR J=1 TO 10 :: READ N(
J):: NEXT J :: J=0 :: DIM T(
50,2)
140 CALL KEY(5,K,S):: IF S=0
 THEN 140
150 ON ERROR 190
160 CALL KEY(5,K,S):: IF K=-
1 THEN 160 :: K=K-(K=48)$10
:: T(J,1)=N(K-48):: CALL SOU
ND(-999,T(J,1),0)
170 IF K=K2 THEN T(J,2)=T(J,
2)+1 :: GOTO 160
180 K2=K :: J=J+1 :: GOTO 16
0
190 FOR X=0 TO J-1 :: CALL S
OUND((T(X,2)+1)$400,T(X,1),0
,T(X,1)$1.01,0):: NEXT X ::
J=0 :: GOTO 140

    A little subprogram to add
a bit of  variety to your
"PRESS ANY KEP" routine.

1 CALL CLEAR :: CALL PRESSKE
Y(24)
30000 SUB PRESSKEY(R)
30001 C=C+1 :: IF C=16 THEN
30002 :: DISPLAY AT(R,1):""
:: DISPLAY AT(R,C):"PRESS AN
Y KEY" :: DISPLAY AT(R,C):"p
ress any key" :: CALL KEY(0,
K,S):: IF S=0 THEN 30001 ELS
E 30003
30002 C=C-1 :: IF C=0 THEN 3
0001 :: DISPLAY AT(R,1):"" :
: DISPLAY AT(R,C):"PRESS ANY
 KEY" :: DISPLAY AT(R,C):"pr
ess any key" :: CALL KEY(0,K
,S):: IF S=- THEN 30002
30003 DISPLAY AT(R,1):"" ::
SUBEND

    And a new way to wipe the
screen -

1 CALL CORNERWIPE(30)
29000 SUB CORNERWIPE(CH):: F
OR T=1 TO 24 :: CALL HCHAR(T
,3,CH,T+4):: CALL HCHAR(25-T
,32-T,CH,T):: NEXT T :: CALL
CLEAR :: SUBEND


            MEMORY FULL

            Jim Peterson
```

Copies of the articles/mailings summarized below may be obtained from any of the officers—but you have to ask!

Converting TI Artist files to TI Writer files; C99 floating point demo program; comments on the new SPAD XIII; rotating instances in TI Artist. (San Diego TI-SIG, November 1987).

A key-in program called Automated Address Book. (San Fernando Valley 99er TImes, November 1987)

Tips for Beginners #7 (printers); Getting the Most From your Cassette System #9; tutorial on Multiplan; tutorial on ramdisks. (PUG Peripheral, December 1987)

A review of the CorComp 256K Memory Plus card. (Quad Cities TIers, December 1987)

A program that prints your own personalized Christmas cards; a complete list of all TI error codes and meanings. (Rocky Mountain 99ers, December 1987)

A key-in game of box & dots, for two players; a review of data base manager programs; how to add 64K on the 16 bit bus. (Decatur Byte-Line, December 1987)

Thoughts and hints on TI Writer. (Edmonton 99ers, December 1987)

Thoughts and hints on Multiplan; discussion of "Disk to Tape" program; control codes for the unusual characters available from your printer. (Aloha 99ers, December 1987)

A review of Super Extended Basic; TI Writer tricks & hints; TI Writer graphics, by Anne Dhein. (Central Iowa Users Group, November 1987)

A one-liner disk cataloger; light pen construction with program. (SNUG, November 1987)

Commentary on the three mail order firms that support the TI; modification of the Multiplan disk drive default. (San Fernando Valley 99er TImes, December 1987)

Getting the Most from your Cassette System #17; ram disk tutorial #2; help with PRBASE; key-in program converts TI Artist files to TI Writer files. (West Penn 99ers, December 1987)

Review of LGMA FORTRAN for the 99/4A; explanation of disk drives available for the TI; a tutorial on Include File used in TI Writer. (Central Iowa Users Group, December 1987)

A key-in game program from Regena, Poker Solitaire; c99 loops and arrays; another key-in game, Intruder; article on the Geneve; reviews of the Chicago and Seattle TI faires; Forth tips; reviews of Legends and Music Preprocessor, a shareware program; many ads and letters from owners. (MICROpendium, November 1987)

A review of Zodiac Wheel of Fortune; a review of Spad XIII Mark 2. (Club 99, December 1987)

Report on the Chicago TI Faire; review of Disk Dump section of Font Writer; two articles on recognizing disk file types; two articles on FORTH; random numbers/sorting; high res graphics by Ann Dhein; transferring PRK files; PRBASE reference chart. (L.A. 99ers, November/December 1987)

The DEFinition command; c99 functions and strings; putting Music Maker on disk; key-in label maker program; converting Forth screens to D/V 80; Geneve column; reviews of Remind Me!, Certificate 99, My-Art. (MICROpendium, December 1987)

Miniwriter II and II+ techniques; an overview of Funnelweb V 4.0; operation of Clyde Colledge's High-speed Cassette Loader; review of KBM/99 Keyboard Interface; reviews of Legends adventure game, Chainlink, and the Imagewise video digitizer. (Cleveland Area User Group, December 1987)

The data chain pointer block step by step guide; using your console as a burglar alarm. (Cin-Day 99ers, January 1988)

TI Faire in Dallas 4/30/88; a letter about Funnelweb V4.0 from Tony McGovern; Geneve 9640 column; 9640 video pinouts; arrays and sorts discussed by Jim Peterson. (Forest Lane 99ers, November 1987)

c99 loops and procedures; fixing Tripletech cards; a listing of U.S. government BBS systems; news about DELPHI information service; a circuit to slow down the TI; news about the Gramulator, a replacement for the Gramkracker. (Forest Lane 99ers, December 1987)

Reviews of Remind Me!, PC Transfer, Genial Font Packs, and Graphics Expander, all from Genial Computerware. (NET 99ers, November 1987)

The story of IBM, "Evolution of a Failure". (NET 99ers, December 1987)

Fast Term keyboard overlay; auto-dialer for Fast Term; review of Printer's Apprentice; review of Screen Dump II Package. (Decatur Byte-Line, January 1988)

Archiving format explained; data needed for a TI articles index. (Quad Cities TI Club, January 1988)

Instructions and hints for TI Writer; instructions for adding a load interrupt switch and a reset switch. (Edmonton 99ers, January 1988)

Ram Disks, part II; Getting the most from your cassette system #10; Tips for Beginners; Multiplan, part 3; TI Writer, part 1. (PUG Peripheral, January 1988)

A letter from Giuseppe Rossoni, Brescia, Italy, asking for contacts who want to correspond about the TI. His software collection is large.

Modify the Widgit when XB is installed in the console; a list of GROMs available for repair of cartridge software; Pascal/p-code, part 2. (West Penn 99ers, January 1988)

Make your own data disk for Certificate 99; ramdisk memory speed comparisons; complete results of Ali Ulgen's TI user survey. (Cleveland Area 99ers, January 1988)

Forth tutorial; tinygram game Fortune of Wheel; variations on a program to set up/control your printer. (QB Monitor, December 1987)

Geneve review #1; file processing tutorial; arrays & sorts tutorial. (Lehigh 99ers, November 1987)

Geneve review #2. (Lehigh 99ers, December 1987)

Geneve review #3. (Lehigh 99ers, January 1988)

Review of Funnelweb V4.0; troubleshooting your printer. (Suncoast Beeper, November 1987)

Fix for a bug in Funnelweb V4.0; printer control codes. (Suncoast Beeper, December 1987)

Funnelweb V4.0 helpful hints. (SNUGLETter, January 1988)

High Res Graphics Part II, comparison of drawing programs for the TI; explanation of CRU access. (L.A. Topics, January 1988)

NEXT MEETING

MONDAY, FEBRUARY 8

7:00 PM — JA BUILDING

ASSEMBLY LANGUAGE CLASS AND

SOFTWARE REVIEWS!!

HAPPY VALENTINE'S DAY!

Cedar Valley 99'er Users Group
288 Windsor Dr. NE
Cedar Rapids, Iowa 52402

Send To:

GARY BISHOP
124-222
860 WESTVIEW DR
MARION IA 52302