BITS,BYTES&PIXELS

PRESIDENT'S COMMENTS

First of all, I would like to thank all of our members for their support in last month's election. I have enjoyed working for the user group ever since it was formed and plan on continuing in the years to come. Special thanks to all the past officers and committies who have given their time to make THE LIMA TI 99/4A HOME COMPUTER USER GROUP one of the best. During the next year I would like to survey our membership and find out what are the current needs and how our user group can help satisfy them. This is the main objective of a user group and I will try to fill every member's need for information on hardware, software, and programming tips. To accomplish this I will need help from the membership.

If you have any suggestions please voice them at our next meeting. Or if you can not make it to the meeting, call me at home. Remember, the user group is the best place to keep up with what is happening with the TI 99/4A computer, so if you know something, SHARE IT. If you have a question about something, ASK IT.

SOME MEETING TOPICS WE COULD HAVE:

1. HOW TO USE FUNNELWEB.
2. DISCUSSION OF EACH MEMBER'S SYSTEM CONFIGURATION AND HOW THEY BUILT IT.
3. WHERE TO FIND THOSE HARD TO GET HARDWARE ITEMS.
4. VISIT THE CHICAGO COMPUTER FAIR.

See you at the next meeting.

TANDY REINVENTS THE WHEEL

The following is quoted from an article that appeared in the August 4, 1707 issue of *USA TODAY*:

"Not content with me-too products, Tandy is making an innovative bid for sales to computer novices, including schoolchildren. Its new $699 1000HX (monitor not included) features gee-whiz "power and run" programming that makes it extremely easy to use. Students can insert a 3.5 inch disk, turn the power on, and their lessons will appear on the screen without them typing in any other commands.

These models are getting really close to toasters. You turn a switch and they work."

Do you suppose these new Tandy computers will automatically boot a program called "LOAD" if it is on the disk? What a great idea!

HOW TO CUSTOMIZE THE FUNNELWEB "USER LIST"

by Charles Good

One of the central menus of FUNNELWEB v3.4 allows you to access a USER LIST of your own selected assembly language or forth programs (but not extended basic programs) from within FUNNELWEB. To do this, the USER LIST must be configured to your specifications. This article tells how to do this.

After loading FUNNELWEB from extended basic select 1 (TI-Writer), and then 6 (User List). You will now see a display of 9 user list choices, some of which are blank and some of which are already configured. You may customize any of the first 8 including the ones that are already set up for something you are not going to use such as cassette loading. At this stage make sure that the file ULINSTL is in the drive that you used to boot FUNNELWEB. If you are using a SS/SD system it is likely that ULINSTL is not on your FUNNELWEB system disk. Remove system the disk and insert the other SS/SD FUNNELWEB disk that does contain ULINSTL. Press item 8 (Instl UL) from the USER LIST menu and boot ULINSTL, then reinsert your FUNNELWEB system disk. You are presented with the following screen (screen #1).

```
USER LIST INSTALLATION
Central Menu Screen UL
        UL Entry 1

List Entry | 1 ..
File-name  |
_____


    No load type specified
_____
B(ack)/N(ext)//E(dit)/S(ave)
        SCREEN #1
```

Pressing N(ext) or B(ack) cycles through the 9 choices (indicated by the number following "UL Entry") available in the User List menu. If a choice is already configured, all the data for that configuration are shown (as in screen #3). If a choice is not yet configured, the ULINSTL menu

looks like screen #1. We will go through the steps needed to install the disk copying program TURBO as the first User List menu item. Turbo comes as a single PROGRAM image file named "TURDO" and would normally load from E/A#5.

Press N or B to select "UL Entry 1", then press E to edit this entry. The cursor is now opposite the words "List Entry", which shows "1 ..". This is how the unconfigured entry appears on the User List menu. Type "TURBO COPY" and press enter. This will make the words "TURBO COPY" appear next to number 1 when you select USER LIST from a FUNNELWEB central menu. The cursor is now next to the words "File-name". Type the file name of the first file to be booted. Since we are going to put TURBO on the FUNNELWEB disk, type "DSK1.TURBO" and press enter.

```
    USER LIST INSTALLATION
    Central Menu Screen UL
         UL Entry 1

List Entry  :  1 TURBO COPY
File-name   :  DSK1.TURBO
_____

    1  Memory Image Program
    2  Tagged Object Code
    3  Script-Load File



    Loader Specification?
```

SCREEN #2

The ULINSTL screen now appears as shown in screen #2. Press 1 for a PROGRAM image assembly file, 2 for a D/F 80 assembly file, or 3 for a group of several linked D/F 80 files. If you press #2 (which is the same as loading from #3 of the E/A module) you are then presented with these choices:
    1 No Special Conditions
    2 Autostart E/A LFHM
    3 Protect loader only
    4 Intercept autostart
Of these choices, #2 is for autostart files that don?t need a "Program Name" to get them running, and #3 is for files that will partially overwrite FUNNELWEB. The other choices are self explanatory.

If you press 1 from the ULINSTL menu shown in screen dump #2 (same as loading from #5 of the E/A module) you are presented with these choices:
    1 Text Mode (TI-Wr)
    2 GPL Environment
    3 E/A Program File

If you specified 1 (Memory Image Program) from the ULINSTL screen shown in screen #2 (as we have in our example), you are now asked "Does the utility disk use a standard TI-Forth loader (Y/N)?" Unless you know your file is written in Forth you should answer "N". If you answer "Y" the value of K will change.

You are now prompted with:
Fctn 6 Enter the data
Fctn 8 Do over again
Fctn 9 Cancel new data
Pressing Fctn 8 (REDO) puts the cursor next to "List Entry" again and lets you reconfigure the particular UL Entry you have been working on (in our case, item #1 item of the USERLIST menu). Pressing Fctn 9 (BACK) cancels the data you just entered and returns you to the first ULINSTL screen shown here in screendump #1. You can then press B or N to select another UL Entry. Pressing Fctn 6 (PROC'D) temporarily stores your configuraton data in memory as shown in screen #3.

```
    USER LIST INSTALLATION
    Central Menu Screen UL
         UL Entry 1

List Entry  :  1 TURBO COPY
File-name   :  DSK1.TURBO
_____
            K = 3
_____


    Memory Image Program
      E/A Program File
_____

B(ack)/N(ext)//E(dit)/S(ave)
```

SCREEN #3

After responding to either of the above two groups of choices the "K" value is displayed on the ULINSTL screen. This is the K value used in configuring the initial Extended Basic powerup menu with its own set of user options. You can use the ULINSTL file to calculate this K value if you can't figure it out from the DOCs. To configure TURBO, we press 1 for Memory Image Program, then 3 for E/A Program File.

After making the choices detailed in the preceeding paragraphs, you are asked "Will the file TURBO always be on the FUNNELWEB boot disk?" We answer "Y" to this question. You are then asked "Do you want a reminder to insert or check the utility disk before proceeding to load the utility program?" If your utility program is not on the FUNNELWEB system disk, you may want to say "Y" to this option. In our specific example, we will respond "N".

You can now go on and configure other UL Entry numbers including those which are already set up for you by the FUNNELWEB authors. When all your UL Entry numbers are configured, press S(ave), and the FUNNELWEB "LOAD" program is permanantly configured. This LOAD program must been in the drive you initially used to boot FUNNELWEB before you press S. If you now reboot FUNNELWEB from XB and select USER LIST from a central menu, you will see your user files listed and all ready to load with just the press of a number.

Now that you have added your own personal choices to the USER LIST option of FUNNELWEB's LOAD program, it is time to add these same choices to the UTIL1 file. When you boot FUNNELWEB from anything besides the XB module, or when you reboot FUNNELWEB from XB after using DISK PATCH or DM1000 you are actually booting UTIL1 (Sometimes this file is instead named RELOAD). The customized USER LIST that you just made with ULINSTL will only show up on the UTIL1 file if you do the following.

UTIL1 is configured using the UPATCH file and you must be sure that UPATCH, UTIL1, and LOAD are all together on the same disk. You cannot boot FUNNELWEB then insert a different disk into the boot drive and boot UPATCH as you can with ULINSTL. This is because UPATCH executes automatically and won't wait for you to reinsert the FUNNELWEB system disk with UTIL1 on it back into the boot drive. First boot FUNNELWEB from XB. Press 2(EDIT/ASSM) from the first XB menu, then from the central menu press 3(loaders). From the Loaders menu press 4(RUN E/A), type "DSK1.UPATCH" when asked for a file name, press <ENTER>, and you are done! The UPATCH file automatically updates the UTIL1 file with your customized USER LIST and writes this UTIL1 file back onto your FUNNELWEB system disk.

To make sure your UTIL1 file does in fact have your USER LIST load FUNNELWEB, go to DM1000, and choose 1-File Utilities. From the File Utilities menu of DM1000 select 3-Load Funnelweb. Input the correct disk number and press <ENTER>. You have now booted UTIL1. Select USER LIST from a central menu and your user choices should be there.

ANOTHER WAY TO PUT USER LIST OPTIONS IN FUNNELWEB

The central menus of FUNNELWEB v3.4 provide entry points for MODEM and DATA BASE. You can load any assembly PROGRAM file from these menu items as long as the first MODEM file is named MD and the first DATA BASE file is named DB. If you arn't going to load a modem or data base out of FUNNELWEB these are good places to put two of your frequently used assembly (not XB) user PROGRAM image files. Doing this means that you don't have to go through an extra layer of menus to access two of your commonly used user programs. They can be accessed from the FUNNELWEB central menus instead.

If you are going to use the DATA BASE entry point, first rename your PROGRAM file DB. If a group of linked files are involved, name them DB, DC, DD, etc. Then use FUNNELWEB's DISK PATCH to visually scan in ASCII each sector of FUNNELWEB'S "LOAD" program until you see "DATA BASE". Move the cursor to these letters and type over them with up to 9 characters of whatever you want to display as the menu name. DO NOT type past the E in BASE. Pad out the rest of the nine characters with spaces. To display "TURBO" in place of DATA BASE as a menu item type "T U R B O" followed by four blank spaces. Then press REDO (Fctn 8) and answer Y to rewrite that disk sector. This reconfigures the "LOAD" program. Now, add these changes to UTIL1 by loading UPATCH as already described above.

FUNNELWEB is great. The ability to customize it with your own special frequently used utilities makes it even neater.

DONE

Bits, Bytes & Pixels

THE MAY 14,1987 FUNNELWEB UPDATE

The Lima User Group has obtained an update of FUNNELWEB v3.4 dated May 14/87 which incorperates several features not found in previous versions.

1. The latest revision date appears at the bottom of the screen on both the first XB user list menu and on each of the two central menus. This feature is found on Apr 10/87 and later updated.

2. After bringing up a disk directory by pressing AID (FCTN 7) from a central menu, or by using SD from the editor, you can mark any D/V80 file from the displayed directory listing to be placed in the mail box. This file name and its drive number will then automatically appear on screen when you use LF, SF, PF, or the formatter. This means you no longer have to remember the exact spelling of a file name in order to edit or print it. Another new disk directory feature available from SD, but not AID, is the ability to print the directory to a printer in two column format by pressing "P".

3. From FUNNELWEB's LOAD program you have the option of specifying a particular D/V 80 textfile name which will always be placed in the mailbox when FUNNELWEB is booted either from LOAD or from UTIL1. This file name will then automatically appear on screen the first time you LF a file into the editor or if you go directly to the formatter after booting FUNNELWEB.

The first two features are quite useful. The third feature is a mixed blessing, and I don't use it in my FUNNELWEB configuration. Normally if you leave FUNNELWEB, go through the title screen and do something else, then return to FUNNELWEB, the last D/V 80 file you used will still be there in the mail box and will magically appear as soon as you LF or go to the formatter. This is true as long as you don't turn off the power to the 32K expanson memory since the mail box memory location is not usually affected by the operation of BASIC, XBASIC, or most modules. However, if you specify a boot mailbox file name in FUNNELWEB's LOAD program, then it is this file name always writes over whatever is already in the mailbox whenever FUNNELWEB is booted or rebooted.

Another little problem is created by the addition of new code to the LOAD program in the May 14 FUNNELWEB release. Transferring customized freatures from the LOAD program of a FUNNELWEB v3.4 dated prior to May 14/87 to FUNNELWEB's dated May 14/87 or thereafter is made more difficult. The FUNNELWEB authors state in the DOC's "Unless otherwise indicated LOAD may be updated by OLDing your existing LOAD, SAVEing it in MERGE format un-RUN, and MERGING it back on to the new LOAD subsequently OLDed into memory. This will save the trouble of re-entering all your XB customization." If you are combining pre and post May 14 LOAD's in this way, however, you first MUST edit lines 110 and 340 and you may choose to edit line 145 of the combined program before you save it back to disk as your new customized LOAD. The string name EDFIL$ has to be inserted into lines 110 and 340 of the merged LOAD program. To see where, look at the post May 14 LOAD program listing as it appears before you merge your previous customization into it. If you wish to specify the same mailbox textfile name every time FUNNELWEB is booted, insert this name ("DSKx.FILENAME") between the quotes in line 145.

User groups (not individuals) may obtain a copy of the May 14/87 FUNNELWEB by sending a flippy or two floppies and return postage to the Lima User Group, P.O. Box 647, Venedocia OH 45894. There is no obligation, but if you do put something on the disk you send us, the Lima User Group will be grateful.

DONE

3.5 INCH DRIVES FOR THE 99/4A

We ran across an advertisment on page 211 of the Sept. 87 issue of Computer Shopper offering A Toshiba 3.5 inch drive and conversion kit especially for the TI 99/4A for $125. This is said to work with Myarc or CorComp controlers (no mention of TI controlers in the ad). For more information call or write:

Alpha Scientific
P.O. Box 626
Chesterfield MO 63006
Phone 314-878-7117

DONE

MAX-RLE HELP CARD: Notes from TRAVIS WATFORD

FROM TITLE SCREEN:
    CATALOG DISK - DSK1. <ENTER>
    LOAD FILES: MAX-RLE will load:
        1) DIS/FIX 128 RLE's
        2) DIS/VAR 80 RLE's
        3) GRAPHX files
        4) TI-ARTIST (V/2) files

ONCE GRAPHIC IS LOADED:
    SCREEN DUMP TO PRINTER
        <P>rinter - Default - PIO.CR
    SAVE FILE TO DISK
        <S>ave - Default = GRAPHX format
            <SPACE BAR>= TI-ARTIST format
            <SPACE BAR>= DIS/FIX 128
            <SPACE BAR>= DIS/VAR 80
    CHANGE GRAPHIC COLORS

COLOR	FOREGROUND	BACKGROUND
Black	1	SHIFT 1
Medium Green	2	SHIFT 2
Light Green	3	SHIFT 3
Dark Blue	4	SHIFT 4
Light Blue	5	SHIFT 5
Dark Red	6	SHIFT 6
Cyan	7	SHIFT 7
Medium Red	8	SHIFT 8
Light Red	9	SHIFT 9
Dark Yellow	a	A
Light Yellow	b	B
Dark Green	c	C
Magenta	d	D
Grey	e	E
White	f	F

TIPS FROM THE TIGERCUB

#44

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 $2.00 each, plus $1.50 per order for cassette or disk and PP&M. Cassette programs will not be available after my present stock of blanks is exhausted.

Descriptive catalogs, while they last, $1.00 which is deductable from your first order.

Tigercub Full Disk Collections, reduced to $10 postpaid. Each of these contains either 5 or 6 of my regular $2 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, VOCABULARY 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 100 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.

Thanks to Steve Chapman and Bill Wallbank of Stone & Webster Engineering Corp. TIUG for this one. If V=21 you are in Extended Basic, otherwise you are in Basic. I am not sure it will work with all consoles and modules. -
100 RANDOMIZE (0)

110 V=INT(RND*100)

How can you input a blank (CHR$ 32) with ACCEPT AT? As far as I know, you can't. With LINPUT, just hit the space bar, and with INPUT, type " ". But with ACCEPT AT the space bar gives a null string and " " gives " " ! However, you can code around it -
X$=CHR$(34)&CHR$(32)&CHR$(32)):: ACCEPT AT(1,1):T$ :: IF T$=X$ THEN T$=CHR$(32)

And, to clear up the puzzling behavior of the "quote marks" -

100 CALL CHARPAT(34,CH$):: CALL CHAR(35,CH$)!written by Jim Peterson
110 DISPLAY AT(1,7)ERASE ALL:"THE # PUZZLE":" You can't enter PRINT # or PRINT ### - the computer demands an even number of #."
120 DISPLAY AT(5,1):"1 PRINT ## !prints a null string (nothing)":"2 PRINT ### !prints #"
130 DISPLAY AT(8,1):"3 PRINT #### !prints #":"4 PRINT ## ### !crashes as STRING-NUMBER MISMATCH"
140 DISPLAY AT(11,1):"5 PRINT ##### !crashes as SYNTAX ERROR"
150 DISPLAY AT(13,1):"6 PRINT ###### !prints ##":"7 PRINT ####### !prints ###":"8 PRINT ######## !print ####"
160 DISPLAY AT(16,1):"9 PRINT ######### !prints ###":"10 PRINT ########## !crashes as STRING-NUMBER MISMATCH"
170 DISPLAY AT(19,1):"11 PRINT ########### !crashes as SYNTAX ERROR":"12 PRINT ########### !####"
180 DISPLAY AT(22,1):"13 PRINT ############ !#####":"14 PRINT ############# !######"
190 DISPLAY AT(24,1):"TRY IT! LINE NO.(1-14)?" :: ACCEPT AT(24,25)VALIDATE(DIGIT)SIZE(2)BEEP:LN :: IF LN<1 OR LN>14 THEN 190
200 CALL CLEAR :: ON LN GOSU

B 230,240,250,260,280,290,300,310,320,330,340,350,360,370
210 PRINT :;:;:"Press any key"
220 CALL KEY(0,K,S):: IF S=0 THEN 220 ELSE 110
230 PRINT "" :: RETURN
240 PRINT "#" :: RETURN
250 PRINT "###" :: RETURN
260 PRINT "##" !crashes as STRING-NUMBER MISMATCH - the # is misinterpreted as a multiplier!Same with +,-,/
270 !with anything else, including numerals, crashes as SYNTAX ERROR - but inserts a space before the character!
280 PRINT "###" :: !crashes
290 PRINT "######" :: RETURN
300 PRINT "###" :: RETURN
310 PRINT "###" :: RETURN
320 PRINT "--------" :: RETURN
330 PRINT "#####" !crash
340 PRINT "######" !crash
350 PRINT "##########" :: RETURN
360 PRINT "###########" :: RETURN
370 PRINT "#############" :: RETURN

The method of closing an "ajar" file, described in Tips #28, doesn't always work, but this one seems to be reliable -

100 ON ERROR 500 :: OPEN #1:"DSK1.TEST" :: INPUT #1:A$ :: PRINT A$ :: STOP
500 ON ERROR 510 :: CLOSE #1
510 INPUT "CHECK DISK AND DRIVE, PRESS ANY KEY":DUMMY$ :: RETURN 100

This one is just for the fun of it - it uses the contents of computer memory to create designs -

100 DISPLAY AT(3,10)ERASE ALL:"COLORPEEK": :TAB(7);"by Jim Peterson": : :" Watch the computer's memory": :"displayed in color."
110 DISPLAY AT(12,1):"Choose": :"(1) plain colors": :"(2) bars & checks": :"(3) patterns" :: ACCEPT AT(12,8)VALI

```
DATE("123")SIZE(1):Q :: CALL
CLEAR`:: IF Q=1 THEN 170
120 DISPLAY AT(12,5):"wait,
please" :: IF Q=3 THEN 140
130 FOR CH=32 TO 143 :: CALL
CHAR(CH,RPT$("F0",8)):: NEX
T CH :: GOTO 160
140 RANDOMIZE :: FOR CH=32 T
O 88 :: FOR J=1 TO 4 :: X$=S
EG$("0018243C425A667E8199A5B
DC3DBE7FF",INT(16$RND+1)$2-1
,2):: B$=B$&X$ :: C$=X$&C$ :
: NEXT J :: CALL CHAR(CH,B$&
C$)
150 CALL CHAR(CH+55,B$&C$)::
B$,C$="" :: NEXT CH
160 FOR SET=0 TO 14 :: CALL
COLOR(SET,SET+1,16-SET):: NE
XT SET :: CALL SCREEN(2):: G
OTO 180
170 FOR SET=0 TO 14 :: CALL
COLOR(SET,SET+2,SET+2):: NEX
T SET :: CALL SCREEN(16)
180 FOR J=-1 TO -2000 STEP -
1 :: CALL PEEK(J,A):: A=A-(A
(33)$(A+32):: A=A+(A)$143)$(A
/2):: R=R+1+(R=24)$24 :: CAL
L HCHAR(R,1,A,32)
190 C=C+1+(C=32)$32 :: CALL
VCHAR(1,C,A,24):: NEXT J ::
GOTO 100
```

Unlike most of the num-
ber games played against the
computer, you can win this
one -

```
100 CALL CLEAR :: CALL SCREE
N(16):: DISPLAY AT(3,8):"THE
'37' GAME" !by Jim Peterson
110 DISPLAY AT(5,1):" We wil
l take turns picking":"a num
ber from 1 to 5, but":"not t
he number that was just":"pi
cked."
120 DISPLAY AT(10,1):" The n
umbers we pick will be":"add
ed to the total count."
130 DISPLAY AT(13,1):" Whoev
er reaches 37 is the":"winne
r, but if you go over":"37 y
ou lose."
140 CALL SHOW(20,1,"Press an
y key to start")
150 CALL KEY(0,K,S):: IF S=0
THEN 150
160 DATA 4,11,17,24,30,37
170 DATA 262,330,392,523,523
180 DATA 1047,784,659,523,52
3
190 C,P=0 :: CALL CLEAR :: C
```

```
ALL MAGNIFY(2):: R=10 :: FOR
J=1 TO 5 :: CALL SPRITE(#J,
48+J,5,R,10):: R=R+30 :: NEX
T J
200 CALL SHOW(24,1,"(Y)ou or
(C)omputer first?"):: ACCEP
T AT(24,28)VALIDATE("YC")SIZ
E(1):Q$ :: DISPLAY AT(24,1):
""
210 IF Q$="C" THEN CALL SHOW
(22,8,"I pick 4"):: CALL COL
OR(#4,1):: P=4 :: C=4 :: CAL
L SHOW(3,10,"COUNT=4")
220 CALL SHOW(20,8,"Pick you
r number"):: ACCEPT AT(20,26
)VALIDATE("12345"):N :: IF N
=P THEN 220
230 IF P>O THEN CALL COLOR(#
P,5)
240 CALL COLOR(#N,1):: P=N :
: C=C+N :: CALL SHOW(3,10,"C
OUNT= "&STR$(C)):: IF C=37 T
HEN 320 ELSE IF C>37 THEN 34
0
250 RESTORE 160
260 READ X :: IF C<X THEN B=
X-C ELSE IF X<37 THEN 260
270 CALL SHOW(22,8,"I'm thin
king..."):: FOR Y=1 TO 700 :
: NEXT Y
280 IF B>5 AND B/2=INT(B/2)T
HEN B=B/2
290 IF B>5 OR B=P THEN B=1-(
P=1)
300 CALL SHOW(22,8,"I pick "
&STR$(B)):: CALL COLOR(#P,5)
:: CALL COLOR(#B,1):: P=B ::
C=C+B :: CALL SHOW(3,10,"CO
UNT= "&STR$(C))
310 IF C=37 THEN 340 ELSE IF
C>37 THEN 320 ELSE 220
320 RESTORE 170 :: FOR J=1 T
O 5 :: READ F :: CALL SOUND(
100,F,5,F$1.03,5):: NEXT J :
: CALL SHOW(12,8,"YOU WIN!")
330 CALL SHOW(15,8,"Play aga
in? (Y/N)"):: ACCEPT AT(15,2
6)VALIDATE("YN"):Q$ :: IF Q$
="N" THEN STOP ELSE 190
340 RESTORE 180 :: FOR J=1 T
O 5 :: READ F :: CALL SOUND(
300,30000,30,30000,30,F,30,-
4,5):: NEXT J :: CALL SHOW(1
2,8,"YOU LOSE!"):: GOTO 330
350 SUB SHOW(R,C,T$):: FOR J
=1 TO 10 :: DISPLAY AT(R,C):
" " :: DISPLAY AT(R,C):T$ ::
NEXT J :: SUBEND
```

A couple more peculiari-

ties of the computer -

```
100 DISPLAY AT(3,8)ERASE ALL
:"POS PUZZLE #1": :"        {
rom Tigercub"
110 DISPLAY AT(9,1):"Why doe
s the computer say":"that X=
1 if you answer the":"prompt
with the Enter key":"(null-
string) ?"
120 DISPLAY AT(14,1):"110 IN
PUT M$"
130 DISPLAY AT(15,1):"120 X=
POS(""TESTING"",M$,1)::":"PR
INT X :: GOTO 100"
140 !POS PUZZLE #1 - why doe
s the computer say that X=1
if you answer the prompt wit
h Enter (null-string) ?
 - Jim Peterson
150 INPUT M$
160 X=POS("TESTING",M$,1)::
PRINT X :: GOTO 140
```

And -

```
100 DISPLAY AT(3,8)ERASE ALL
:"POS PUZZLE #2": :"        {
rom Tigercub"
110 DISPLAY AT(7,1):"Why doe
s the computer say":"that th
e first position of":"null-s
tring is at whatever":"posit
ion it is told to start":"se
arch at?"
120 DISPLAY AT(13,1):"100 M$
=""""""
130 DISPLAY AT(14,1):"110 DI
SPLAY AT(20,1):""POS?"" :: A
CCEPT AT(20,6):P"
140 DISPLAY AT(16,1):"120 X=
POS(""TESTING"",M$,P):: DISP
LAY AT(22,1):""X="";X :: GOT
O 110"
150 M$=""
160 DISPLAY AT(21,1):"POS?"
:: ACCEPT AT(21,6):P
170 X=POS("TESTING",M$,P)::
DISPLAY AT(23,1):"X=";X :: G
OTO 160
```

Here is an improvement to
the PRINTSPEAKER in Tips #40
- in lines 130 and 160,
change the CHR$(1)&"1" to
CHR$(3)&"255" . This will
avoid problems if the pro-
gram being converted opens
FILE #1.

Irwin Hott informs me that
assembly routines which have
been imbedded into XBasic
programs, using ALSAVE or
SYSTEX, can be saved to
cassette and reloaded. This
could be very useful for
those who have a stand-alone
or "matchbox" 32k.

And, a mini-game for you
to have fun with or improve
on -

```
1 !      2-LINE GAME
      by Jim Peterson
- use S&D keys to paint the
white line on the highway
2 !if it is too easy, change
the 6 in A$=RPT$(CHR$(143),6
) to 5 and the 5 in C>T+5 to
4
100 CALL CLEAR :: A$=RPT$(CH
R$(143),6):: CALL COLOR(14,2
,2,2,16,16):: CALL SCREEN(4)
:: T=11 :: C=14 :: CALL HCHA
R(22,C+2,42):: RANDOMIZE
110 T=T+INT(3$RND-1)+(T=21)-
(T=1):: PRINT TAB(T);A$ :: C
ALL KEY(3,K,S):: C=C+(K=83)-
(K=68):: CALL HCHAR(22,C+2,4
2):: IF C<T OR C>T+5 THEN ST
OP ELSE 110
```

And finally, one of the
best examples of compact
programming I have ever
seen -

```
1 !JOHN WITTE'S 3-LINE VERSI
ON OF JOHN WILLFORTH'S WAVE
POWER - PUBLISHED IN GREATER
OMAHA UG NEWSLETTER
100 CALL CLEAR :: A$(1)="ABC
DEFGFEDCBA" :: FOR I=1 TO 7
:: CALL CHAR(72-I,RPT$("0",2
$I-2)&"FFFF",47,"30303EFF7F3
E1E04"):: A$(I+1)=SEG$(A$(I)
,2,12)&SEG$(A$(I),2,1):: NEX
T I
110 CALL SPRITE(#5,47,2,180,
180,-23,0,#6,47,2,80,100,-23
,0):: CALL MAGNIFY(2)
120 FOR I=1 TO 12 :: PRINT A
$(I+(I)7)$2$(I-7))&A$(I+I+(I
)6)$2$(I-6)):: NEXT I :: GOT
O 120
```

Memory full
Jim Peterson