

PRESIDENT'S NOTES...by Jay Seaberg

School days are here again, and depending on your outlook it's either HIP HIP HOORAY or BOO HISS! Summer has sped past, and it's back to the old grind. As usual, the beginning of the school year evokes different memories for us all.

Our last meeting was quite interesting. We had two full systems available. They were both used to their fullest capabilities. A very short business meeting was followed by a round table discussion on our User's Groups direction and ways of expanding our membership.

There were several requests for a class in program writin . Flow charting was also mentioned as a possible topic for a short course. We will be very happy to answer the computer needs of our members.

The expansion of our membership base is of vital concern. We have reached a plateau, but our group could be larger. There is strength in numbers and there is a tremendous potential in our area. If you know anyone who has put their computer away, try to get them to attend a meeting with you, or show them a copy of the newsletter. We have a broad base of computer expertise to offer. Continuing education is the goal of many people, and your computer is a wonderful learning tool. It has the patience of Job and almost limitless potential. Many of our local schools use computers in the classroom, and with good reason. The computer can be a tutor tailored to each student's learning rate and age level. Instant gratification for lessons well done are one big factor in their success.

In the case of your TI computer, it can be used to help either you or your children sharpen learned skills. Our library has quite a few excellent programs in areas such as mathematics, spelling, geography, and reading. There are also programs for setting up quizzes on any topic. Some of these programs take advantage of the speech synthesizer. All are available for your use.

We have proof of Navaronne's support for the 99/4A. We have received a copy of their Paint 'n Print for demonstration purposes. Larry Livergood has been testing this cartridge and will demo it at the meeting. See his article for more info.

We look forward to seeing you at the meeting on the 12th. Let's have a good turnout and get the school year off with a bang.

DUES RENEWAL

We have had several inquiries about renewal of membership dues. I agree that our current system (by word of mouth) is totally inadequate, however, I do not feel printing everyone's name in the newsletter when they are overdue

is the answer. Therefore, as of this printing, I have made the following change on the mailing labels to indicate the date everyone's renewal is due.

Close to the right hand corner of the label, on the same line as your name, are four digits, separated by a slanted line, indicating the month and year that your renewal is due. You will receive two more newsletters after that month, at which time, your subscription and membership will no longer be valid.

We feel this allows everyone enough time to make it to a meeting or contact an officer and make arrangements. If anyone has a question regarding their current status, or would like to suggest further modifications to this system, please contact the president or vice-president. Both phone numbers are given on the back of each newsletter.

NEW PRODUCTS FROM CORCOMP

CorComp has announced these five new products for the 99/4A:

9900 CLOCK/CALENDAR --provides a simple means of accessing in real time the YEAR, MONTH, DATE, DAY, HOURS, MINUTES, AND SECONDS. Accessed through TI Basic or Extended Basic with OPEN, PRINT, INPUT, AND CLOSE statements. Comes as either a Stand Alone Unit or as one of the functions of the TRIPLE TECH CARD for the TI P-Box.

LOAD INTERRUPT SWITCH --designed to implement the new screen dump programs from leading software companies. Comes as part of the 9900 CLOCK/CALENDAR Stand Alone Unit and will soon be available as an independent switch.

32K MICRO MEMORY --a MICRO duplication of the CorComp 32K card. A Stand Alone Unit that can be "daisy chained" with the TI Speech Synthesizer as well as CorComp's other products. 100% compatibility with TI and third party software.

B3 MODULE ADAPTOR --made to allow owners of 1983 versions of the TI99/4A to run module programs by AtariSoft and others which, up to now, were prohibited by a built-in GROM program. This is only applicable to machines that display 1983 TEXAS INSTRUMENTS V2.2 on the title screen.

TRIPLE TECH CARD --a single card for the TI P-Box which includes a REAL TIME CLOCK/CALENDAR, 64K PARALLEL PRINTER BUFFER, and a TI SPEECH SYNTHESIZER PORT. The speech port allows you to remove the Speech Synthesizer circuit board from the case and insert it in the P-Box.

For further information on these products, please see one of the officers at the next meeting.

LIBRARY CORNER...by Jay Seaberg

Our library has grown by another disk over the last month. Here are a few new entries for your enjoyment:

U002 CROSS REFERENCE --a utility program that will cross cross reference a variables in a program. Identifies variable names, number of times used, and the lines where they can be found. Very handy for debugging. Requires

extended vbasic and disk system.

H001 ADDRESS BOOK --useful program for mailing lists and general reference. Could be modified for other file types and uses. Requires Console basic

H004 STOCK MARKET ANALYSIS GUIDE --utility for keeping track of stock gains and losses. Requires Extended basic and disk system.

G005 BALLOON VOYAGER --very challenging game in Extended basic. Maneuver a hot air balloon over the city while trying to miss the flying birds and then land the balloon on a small platform.

BLKBUSTER --a console basic game. A game that harks back to the original pong with a neat little twist. Very good speed and action in a console basic game.

DOCKING --maneuver your ship to land on the planet. Twist around the stars in your path or blast them with a laser. Not as easy as it sounds. Extended basic.

HYWAY PROGRAM

NAVARONE INDUSTRIES, INC of Sonora, CA, have started an ambitious Users Group program which they have dubbed the HYWAY PROGRAM. Our group, along with many others across the country, have been selected to receive various products to evaluate. In return we can benefit in several ways.

First, the product is ours to do with what ever we wish. Second, we will be allowed to buy these products at wholesale for resale to our members. They will even go as far as placing them in our hands on consignment.

These products will consist of quality software which is being tested for overall market acceptance. We have received the first item entitled PAINT 'N' PRINT and intend to demonstrate it at the next meeting. Additional information on the program can be found elsewhere in this newsletter.

We encourage everyone to attend the next meeting in order to help us evaluate this product. The number of people present is part of the evaluation and could determine our future participation, therefore, it's to everyone's advantage to be there.

PAINT 'N' PRINT...by L. R. Livergood

The first test product from NAVARONE is a graphics program entitled PAINT 'N' PRINT has arrived and will be reviewed at this month's meeting. The program comes in module form and will run with just the console. It is somewhat similar to SUPERSKETCH which we demonstrated several months ago, however, there are several differences.

Major features include being able to draw with various "brush" tips; windowing off sections of the screen; moving and copying section of the screen; inserting text; drawing with lines, rays, and boxes; changing colors; magnifying to pixel accuracy; changing the font style; and saving your work to either cassette or disk. All these commands are handled with

machine language speed.

Of course, a printer would provide a hard copy of your work, but its not required. There are two versions of the program, both selectable from the begining screen. One for the AXIOM GP-100 printer or compatable, and the other for the AXIOM GP-700 for printing in color.

If you have a disk drive and 32K expansion then you can upgrade this program by purchasing their Extended Graphics Package. It adds several other advanced features to the list of commands such as area fill, circle, invert/mirror, texture, color swap, and kaleidescope, It also gives you the ability to change the printer set-up for practically any printer.

With just a little practice I was able to put together several screens of graphics. I would like to see everyone try their hand at it during the next meeting. After trying it out you might decide that this is just the program you were looking for.

TK-WRITER REVISIONS

From the Jackson County 99'ers, come these tips on modifying Tom Knight's Extended Basic load program for TI-Writer.

Apparently, when going from the Editor to the Formatter, the LOAD program reloads the assembly program, not checking to see if it is still in memory. The resulting wait can be avoided by making the following modifications to the LOAD program:

```
100 CALL CLEAR :: CALL INIT :: CALL PEEK(-2043,A,B) ::  
    IF A<>84 OR B<>75 THEN 108  
102 CALL LOAD(16360,85,84,73,76,73,84,250,212,70,79,82,  
    77,65,84,250,132,69,68,73,84,79,82,250,22)  
104 CALL LOAD(8196,63,232) :: GOTO 110  
108 CALL LOAD("DSK1.WRITER")
```

The second tip deals with the potential problem of selecting "SD" for Show Directory and losing your current work. If you are aware of this problem you can probably avoid it, however, there is a fix. Find the third sector of the EDITA1 program (using a utility program such as DISKO), and make the following modification:

ORIGINAL FORM

```
2D 54 53 48 3E 0F 2D 54 52 45 3E 2C 0C  
2F CA 4D 20 3E 84 2F 42 53 44 3C D4 18  
2E 4C 53 46 00 00 2E 8A 4C 46 00 00
```

ALTERED FORM

```
2D 54 53 48 3E 0F 2D 54 52 45 3E 2C 0C  
2F CA 4D 20 3E 84 2F 42 20 44 3C D4 18  
2E 4C 53 46 00 00 2E 8A 4C 46 00 00
```

This change in the program will return you to the command line should you happen to press "SD". If you need some help with this or don't have the necessary software, let us know at the meeting and we'll help you.

FREWARE UPDATE

The following "freeware" programs are currently available through the group library. As many of you know, these programs have been made available on a trial basis by their respective authors. If like the programs then please send them a small denomination (\$5-\$10) for their effort. Check with the officers for system requirements. Many thanks to Ron Rutledge of the Central Iowa Users Group for providing us with the copy of Disk Manager 1000, as well as his own program, and the information on some others.

=====

CAPE COD GOLF by Harry P. Richard 18 Fruitwood Drive, Burnt Hills, NY 12027
(Cassette Only)

9-hole golf simulation game written in console basic. Control of swing and direction with joysticks.

=====

DISK MANAGER 1000 by Bruce Caron, Ottawa Users Group (no address available)
(single disk)

This is a well written manager which could take the place of the Disk Manager 2

=====

MASSCOPY by Stephen Lawless 2514 Maple Avenue, Wilmington, DE 19808
(single disk)

A sector disk copier that will copy to two disk drives at once. Will copy in three passes or one pass with a 128K card. Also has an initialization feature.

=====

TK WRITER by Tom Knight 7266 Bunion Drive, Jacksonville, FL 3222
(single disk)

A loader program that will let you use TI-WRITER without the cartridge.

=====

NEATLIST by Danny Michael Route 9, Box 460, Florence, AL 35630
(single disk)

A utility program for the serious programmer. It will provide a listing of an Extended Basic program with only one statement per line. Great for debugging.

=====

SCREENDUMP by Danny Michael Route 9, Box 460, Florence, AL 35630
(single disk)

Assembly screendump program that loads into the lower 8K of memory. Will dump a screen from a cartridge with the installation of an interrupt switch.

=====

DIRECTOR by Ron Rutledge 1020 3rd Street, Waukee, IA 50363
(single disk)

An Extended Basic disk cataloger for keeping track of your library. A labeling feature for disk labels is also included.

=====

FAST-TERM by Paul Charlton 1110 Pinehurst Court, Charlottesville, VA 22901
(single disk)

A terminal emulator which supports TEII protocols and XMODEM.

=====

SPRITE BUILDER by Marty Krill 218 Kaplan Avenue, Pittsburgh, PA 15227
(Double-sided or 2 single-sided disks)

A sprite designing program with many features such as rotation, etc. Also has predesigned graphics characters and optional speech.

=====

FORTH2 by Thomas P. Weithofer 1000 Harbury Dr., Cincinnati, OH 45224
(2 Disks required)

Enhancements to TI FORTH including auto-load from Extended Basic, various string manipulation routines, and sound routines to name a few.

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CHICAGO-AREA TI-99/4A USER'S GROUP

P.O. Box 578341
Chicago, Illinois
60657

August 6, 1985

Dear TI-Friends

The Chicago-Area TI99/4A User's Group cordially invites your group members, and any other interested persons, to attend their third annual TI-Computer Faire. The Faire committee currently has plans to have guest speakers, game contests, seminars on TI-computer related topics, drawings, and door prizes. The most important feature of our Faire, as always, are the vendors. The vendors that display at our Faire have the latest hardware and software available for the TI99/4A, as well as the old favorites. Bargain hunters will enjoy the wide selection of competitively priced equipment and programs that can be used to increase their computing capabilities on the 99/4A. Last year the attendance at our Faire exceeded 1500 visitors, some from as far away as Canada.

Come and visit our Faire. The Faire will be held in the Ironwood Room at Triton College 2000 North Fifth avenue in River Grove, Illinois on November 2, 1985 between the hours of 10:00 A.M. and 5:00 P.M. Just 1/4 mile north of the Maywood Park race track. Bring the family for a day of fun and mind expanding information on your favorite computer. Admission to the Faire to bona fide members of TI User's groups is \$1.00 with proof of membership. General admission to the Faire is \$2.00 per person at the door. There will be a table set up for visiting users groups to promote their own organization and recruit members, a condition of this promotion is that no hardware is to be sold by the groups. Take care you don't miss the Faire. That date again is Saturday November 2nd, 10 to 5, see you there.

Thank You,

Sandra Bartels

Group Secretary

P.S. If you need more information about our Faire please write to the group P.O. box, or if you prefer you may call our 24 hour BBS for the latest Faire updates at (312) 966-2342.

SB/jb

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The entire contents of Tips from the Tigercub Nos. 1 through 14, with more added, are now available as a full disk of 50 programs, routines and files for just \$15.00 postpaid!

Nuts & Bolts is a diskfull of 100 (that's right, 100!) XBasic utility subprograms in MERGE format, ready for you to merge into your own programs. Contents include 13 type fonts, 14 text display routines, 12 sorts and shuffles, 9 data saving and reading routines, 9 wipes, 8 pauses, 6 music, 2 protection, etc., and now also a tutorial on using subprograms, all for just \$19.95 postpaid!

And I have about 140 other absolutely original programs in Basic and XBasic at only \$3.00 each!(plus \$1.50 per order for cassette, packing and postage, or \$3.00 for diskette, PPM) I will send you my descriptive catalog for a dollar, which you can then deduct from your first order.

Many of the users groups are taking a summer break, so I thought I would do the same. I'm going to mail out the July and August issues of the Tips in June (imagine, a TI publication

AHEAD of schedule!!) and then go fishing. However, if anyone should by any chance decide to send me an order during the summer, they will still get my same-day service.

It seems that I had better clear up a few misunderstandings. The "freeware" offers I have mentioned in past Tips are NOT available from me - send your disk and returnable mailer AND RETURN POSTAGE to the author of the program.

And, my copyrighted Tigercub Software programs are NOT freeware. They can only be legally obtained by mail order from me - if you copy them from anyone else, you are stealing!

As for the programs which I write and publish or distribute without copyright, they are also not Freeware, they are FREE. I don't want to be paid for them, and I don't think anyone else should be paid for them.

Some users groups are putting my copyrighted programs, and those of other programmers, in their software library, "for use but not copying" or "for review and evaluation only". Who do you think you're kidding? I know I won't sell any software to members of pirate clubs, so why should I support them?

If you didn't solve the Long Division Puzzle in Tips #24, try dividing 230709 by 835. As for the solution to the Tigercub Challenge, it was right on the same page! Try creating those DATA statements with the LINewriter routine. I don't know why it works, but it does.

I've been asked to print more information on the "program that writes a

program". I don't have room for a detailed account, but here are the basics. If you tried my TOKENLIST routine in Tips #23 you already have a list of the token codes you will need.

I won't go into the way that the computer squishes a program line number into only two characters, but you can accomplish it with DEF L=CHR\$(INT(LN/256))&CHR\$(LN-256*INT(LN/256)), where LN has been predefined as the value of the line number.

If you need to refer to a program line in a statement, as in GOTO 500, use DEF R=CHR\$(201)&CHR\$(INT(RN/256))&CHR\$(RN-256*INT(RN/256)), RN being the line number.

To print a statement or command, simply print its token character. For instance, the token for DATA is 147, so you would print CHR\$(147). Note that all the punctuation marks used in programming, such as (and +, are also represented by token codes which are NOT the same as their keyboard ASCII value.

To print a variable name, either numeric or string, just enclose it in quotes, "A" or "A\$".

To print a value, or an unquoted string (as in a DATA statement), or the word which follows a CALL, you must print CHR\$(200) followed by a token giving the number of characters to follow, such as CHR\$(5) for a 5-character word such as CLEAR, then the value in quotes. For instance, the token for CALL is 157, so CALL CLEAR is CHR\$(157)&CHR\$(200)&CHR\$(5)&"CLEAR".

You can simplify that by predefineding DEF U\$(V\$)=CHR\$(200)&CHR\$(LEN(V\$))&V\$, and then simply print CHR\$(157)&U\$("CLEAR").

A quoted string is handled in the same way

except that it is preceded by token 199 instead of 200, so you can predefined it as DEF Q\$(V\$)=CHR\$(199)&CHR\$(LEN(V\$))&V\$ - the computer will take care of the quote marks.

Each program line must end with CHR\$(0), and the last record you print must be CHR\$(255)&CHR\$(255).

A MERGE format file is D/V 163, so open the file with OPEN #1:"DSK1.MERGEFILE", VARIABLE 163.

Don't print more than 163 characters in a record or the computer will blow its mind! You can print multiple-statement XBasic lines, but be sure to use the double-colon token CHR\$(130) as the separator, not two of the CHR\$(181) colon tokens.

Any errors you make will usually not show up until you try to MERGE or use the program you have created. I/O ERROR 25 means that you forgot the final 255 & 255; DATA ERROR or SYNTAX ERROR probably means that you left off a CHR\$(0) or gave the wrong count of characters after CHR\$(200).

Here's a bit of psychedelic blues - -

```
100 REM - FRANKIE & JOHNNIE
      by Jim Peterson
110 DIM S(12)
120 CALL SCREEN(2)
130 FOR R=1 TO 12
140 CALL COLOR(R+1,1,1)
150 FOR T=R TO 25-R
160 CALL HCHAR(T,R,32+R*8,34-2*R)
170 NEXT T
180 NEXT R
190 DATA 262,294,311,330,349
      ,392,440,494,523,587,40000
200 FOR N=1 TO 11
210 READ S(N)
220 NEXT N
230 FOR J=1 TO 110 STEP 2
240 CALL COLOR(A+1,1,1)
250 READ T,A
260 CALL COLOR(A+1,A+2,A+2)
```

```

270 FOR TT=1 TO T
280 CALL SOUND(-999,S(A),0)
290 NEXT TT
300 NEXT J
310 RESTORE 330
320 GOTO 230
330 DATA 2,1,2,2,2,4,2,7,1,1
1,1,7,2,6,4,4,2,1,1,13,1
340 DATA 2,1,2,2,2,4,2,7,1,1
1,1,7,2,6,4,4,12,1
350 DATA 1,11,3,1,2,5,2,6,2,
7,2,9,1,11,1,9,2,10,4,7,1,9,
1,11,7,9
360 DATA 4,7,2,8,2,9,1,11,3,
9,1,11,1,9,4,8,2,7,6,6
370 DATA 4,4,1,11,3,4,4,3,16
,2,1,11,4,7,2,6,4,7,4,6,20,1
,8,11

```

You can too have a blank space in your disk filenames! Just use FCTN V for the blank, instead of the space bar. You can even have a diskfull of 10 programs with invisible filenames consisting of 1 to 10 of those FCTN V's.

However, those invisible characters can do strange things when you list your disk catalog to a printer.

If you want to INPUT a string with leading and/or trailing blanks, just enclose the whole works in quotation marks. Try this -

```

100 INPUT A$ !type TEST
110 PRINT A$;LEN(A$)
120 INPUT A$ !type * TEST *
130 PRINT A$;LEN(A$)
140 GOTO 100 !you can even
input a blank string of 136
characters

```

I really shouldn't tell you this, but if you want to make it difficult for someone to LIST your program, just insert a garbage line, every 5th line or so until you run out of memory, consisting of REM followed by 4 or 5 lines of random characters typed with the CTRL key held down.

Here's a program that

can actually read your mind!

```

100 CALL CLEAR
110 PRINT "TIGERCUB MIND REA
DER PROGRAM": :
120 PRINT "I'll bet you a do
llar I can guess what you ar
e thinking.": :
130 GOSUB 440
140 PRINT "And I'll bet ano
ther dollar I can tell if wh
at you are thinking is cor
rect.": :
150 GOSUB 440
160 PRINT "And I'll bet anot
her dollar I'm right BOTH ti
mes.": :
170 GOSUB 440
180 PRINT "And I'll bet one
more dollar I can guess what
you'll be thinking a minute
from now.": :
190 GOSUB 440
200 PRINT "OK....": :
210 GOSUB 480
220 PRINT "You're thinking t
hat a compu-ter can't possib
ly know what you are thin
king.....right?": :
230 GOSUB 480
240 PRINT "So I told you wha
t you were":"thinking.....
.right?": :
250 GOSUB 480
260 PRINT "You owe me a buck
.": :
270 GOSUB 480
280 PRINT "And you're absolu
tely right..I can't re
ad your mind.": :
290 GOSUB 480
300 PRINT "So I told you cor
rectly that":"what you were
thinking was":"correct.....
right?": :
310 GOSUB 480
320 PRINT "You owe me anothe
r buck.": :
330 GOSUB 480
340 PRINT "So I was right 80
TH times...right?": :
350 GOSUB 480
360 PRINT "That makes three
bucks you owe me.": :
370 GOSUB 480
380 PRINT "And now it's a mi
nute later":"and you're thin
king you've":"been played fo
r a sucker....":"...right?":
:

```

```

390 GOSUB 480
400 PRINT "...so you owe me
four bucks.": :
410 GOSUB 480
420 PRINT "NEVER NEVER bet a
gainst a computer!! "
430 END
440 PRINT "Want to bet? Type
Y(yes)": :
450 CALL KEY(3,K,ST)
460 IF (ST=0)+(K<>89)THEN 45
0
470 RETURN
480 FOR D=1 TO 800
490 NEXT D
500 RETURN

```

Since the manual doesn't mention it, some folks don't know that you can use IMAGE and PRINT USING for output to the printer. Try this -

```

100 OPEN #1:"PID"
110 INPUT "NAME? ":N$
120 INPUT "AMOUNT? ":A
130 PRINT #1,USING "#####
#####"
.##":N$,A
GOTO 110

```

Of course, you could also add a line -

```

105 IMAGE "#####
#####"

```

And change line 130 to

```

130 PRINT #1,USING 105:N$,A

```

John Taylor has written the most complete and versatile SPRITE BUILDER utility program that I have ever seen. It has 22 different options available with a single key press, including rotation and animation. And along with it comes a diskfull of preprogrammed sprites designed by a professional artist. This is being distributed as Freeware. Send two single-sided or one double-sided disks to John Taylor, 2170 Estaline Drive, Florence AL 35630, in a returnable mailer WITH RETURN POSTAGE, at least - and I hope you'll also include something more!

Attention, assembly programmers! Fred Hawkins of the Lehigh U6 is trying to coordinate a project of documenting the operating system by breaking the console ROM down to pages of 256 bytes so that each individual or group can work on just one page. Only those who participate will share in the results! All this is far beyond me, but if you want in, send an SASE and a SSSD disk with return postage and mailer to Fred Hawkins, 1020 N 6th St, Allentown PA 18102 - soon!

If you have a program on disk which is so long that you must type CALL FILES(1) before you can load it, add several program lines to it consisting of REM and any key you want to hold down for 5 lines. Then SAVE it back to the disk; it will now be in INT/VAR 254 format and will load without CALL FILES(1). If you then need sometime to make a cassette copy, just delete those lines and SAVE it back to disk again.

If a program loads, but gives you a MEMORY FULL IN LINE ... when you try to run it, it has used up all available memory while reading DATA into arrays or performing other internal calculations. If it runs for some time and then gives you the MEMORY FULL message, it is because you have repeatedly jumped out of a FOR...NEXT loop with an IF...THEN...GOTO before the loop is completed. This rarely happen but it can, especially when you repeatedly jump out of the innermost of several nested loops.

MEMORY FULL

Jim Peterson

KIDS KORNER

Alphabet Recognition was reprinted from "Bug-Bytes of Australia" via the December, 1984 issue of Topics, Newsletter of the LA 99'ers, P.O. Box 3547, Gardena, CA 90247.

ALPHABET RECOGNITION

This program was written by L.K. HUTCHINGS to help his son learn the alphabet. It proved to be a big hit at his pre-school too. I think that all the pre-schoolers out there will love it too. It requires Extended Basic and if you have a speech synthesizer, you will also get speech with it.



```

100 CALL SCREEN(8)
110 FOR COL=3 TO 8 : CALL C
DI.(COL,2,1): NEXT COL
120 DISPLAY AT(4,4)ERASE ALL
:"1 ALPHABET RECOGNITION" :
DISPLAY AT(6,4):"2 ALPHA AT
TACK"
130 DISPLAY AT(8,4):"3 CLOSE
OF PROGRAM" : DISPLAY AT(1
8,2):"PUSH NO KEY OF YOUR CH
DICE"
140 CALL KEY(O,K,S): IF S=0
THEN 140 : IF K=ASC("1")TH
EN 150 : IF K=ASC("2")THEN
470 : IF K=ASC("3")THEN 850
ELSE 140
150 DISPLAY AT(12,4)ERASE AL
L:"ALPHABET RECOGNITION" :
FOR DE=1 TO 300 : NEXT DE
160 CALL CLEAR
170 PRINT "THE IDEA IS TO PR
ESS THE KEY ON THE KEYBOARD
THAT MATCHES THE LETTE
R THAT IS GOING ACROSS THE
SCREEN"
180 PRINT "THE COMPUTER WILL
LET YOU KNOW IF IT IS COR
RECT. IF IT IS CORRECT THEN
ANOTHER LETTER IS RANDOML
Y SELECTED"
190 PRINT "UNTIL YOU HAVE CO
RRECTLY GOT 40 RIGHT" : :P
RESS ANY KEY TO START"
200 CALL KEY(O,K,S): IF S=0
THEN 200
210 CALL CLEAR
220 RANDOMIZE
230 FOR A=1 TO 40
240 X=INT(RND*25)+65
250 CALL SCREEN(2)
260 CALL MAGNIFY(2)
270 FOR C=5 TO 8
280 CALL COLOR(C,16,2):: NEX
T C
290 FOR Q=4 TO 25 STEP 4
300 DISPLAY AT(24,Q):CHR$(X)
:: DISPLAY AT(1,Q):CHR$(X)::
NEXT Q
310 CALL SPRITE(1,X,16,86,2
0,0,10)
320 CALL SAY(CHR$(X))
330 CALL KEY(O,K,S): IF S=0
THEN 330 : IF K[J]X THEN 36
0 ELSE 390
340 CALL DELSPRITE(1): NEX
T A
350 GOTO 100
360 DISPLAY AT(20,7){ "WRONG
TRY AGAIN"
370 CALL SAY("UNHOL. THAT IS N
OT RIGHT, TRY AGAIN")
380 DISPLAY AT(20,7)SIZE(16)
:" " : GOTO
310
390 DISPLAY AT(20,12)SIZE(5)
:"RIGHT"
400 Z=INT(RND*5)+1 : ON Z G
OTO 410,420,430,440,450
410 CALL SAY("GOOD WORK,GO S
OME MORE"):: GOTO 460
420 CALL SAY("THAT IS CORREC
T, CAN YOU DO IT AGAIN"):: G OTO 460

```

```

430 CALL SAY("RIGHT. GO AGAI
N"):: GOTO 460
440 CALL SAY("GOOD, WHY STOP
NOW"):: GOTO 460
450 CALL SAY("YES.GO AGAIN")
460 DISPLAY AT(20,12)SIZE(5)
:" " : GOTO 340
470 CALL CLEAR
480 DISPLAY AT(12,8):"ALPHA
ATTACK" : DISPLAY AT(20,2):
"WANT INSTRUCTIONS Y OR N?"
490 CALL KEY(O,K,S): IF S=0
THEN 490 : IF K{JASC("Y")}T
HEN 550 ELSE 500
500 DISPLAY AT(2,2)ERASE ALL
:"THE OBJECT IS TO SHOOT DOG
N" : "THE ALPHABET IN ORDER"
510 DISPLAY AT(6,2):"USE THE
JOYSTICK AND FIRING" : "BUT
TON.THERE ARE 52 BULLETS"
520 DISPLAY AT(11,1):"SO DO
NOT WASTE THEM..." : DISPL
AY AT(13,5):"GO TO IT! GOOD
LUCK!"
530 DISPLAY AT(20,5):"PUSH A
NY KEY TO START"
540 CALL KEY(O,K,S): IF S=0
THEN 540 ELSE 550
550 CALL CLEAR
560 CALL SCREEN(2)
570 CALL MAGNIFY(1)
580 RANDOMIZE
590 FOR S=1 TO 26
600 R=INT(RND*120)+1 : C=IN
T(RND*246)+10 : CS=INT(RND*
15)+1
610 CALL SPRITE(15,64+S,INT(
S/2)+3,R,C,0,CS)
620 NEXT S
630 CALL SPRITE(127,94,16,17
0,128)
640 APMO=52
650 FOR T=1 TO 26
660 FOR CL=3 TO 0 : CALL CO
LOR(CL,16,1):: NEXT CL

```

```

670 CALL POSITION(127,0,D)
680 CALL JOYS(1,X,Y):: Y=0
690 CALL KEY(1,K,S):: IF S=0
THEN 730 : IF K=10 THEN CA
LL SPRITE(120,46,16,0,D,-25,
0):: CALL SOUND(100,-1,0)::
APMO=APMO-1
700 IF APMO=0 THEN 820
710 CALL COINC(1,128,0,C)::
CALL POSITION(128,0,D1)
720 IF C=-1 THEN 750 : IF R
1{9 THEN CALL DELSPRITE(128)
ELSE 710
730 DISPLAY AT(23,2):"APMO="
:APMO
740 CALL MOTION(127,-Y,X*6):
: GOTO 670
750 CALL SOUND(250,-7,0):: C
ALL DELSPRITE(1): CALL DEL
SPRITE(128)
760 DISPLAY AT(24,1+1):CHR$(
64+1)
770 IF 1)26 THEN 790
780 NEXT 1
790 CALL DELSPRITE(ALL):: CA
LL CLEAR : CALL SCREEN(2)
800 DISPLAY AT(10,1):"WELL D
ONE WANT TO PLAY AGAIN" : D
ISPLAY AT(12,11):"Y OR N" :
DISPLAY AT(14,1):"YOU HAD" :
APMO:"BULLETS LEFT"
810 CALL KEY(O,K,S): IF S=0
THEN 810 : IF K{JASC("Y")}T
HEN 100 ELSE 550
820 CALL DELSPRITE(ALL):: CA
LL CLEAR : CALL SCREEN(2)
830 DISPLAY AT(10,1):"SORRY-
OUT OF APMO PLAY AGAIN" : D
ISPLAY AT(12,11):"Y OR N"
840 CALL KEY(O,K,S): IF S=0
THEN 840 : IF K{JASC("Y")}T
HEN 100 ELSE 470
850 DISPLAY AT(12,11)FRASE A
LL:"GOODBYE" : CALL SAY("GO
ODBYE")
860 FOR DE=1 TO 1000 : NEXT
DE : CALL CLEAR : END

```

(Editor's Note: The following article is printed in the HUGgers Newsletter through the courtesy of the Indianapolis TI Exchange Center.

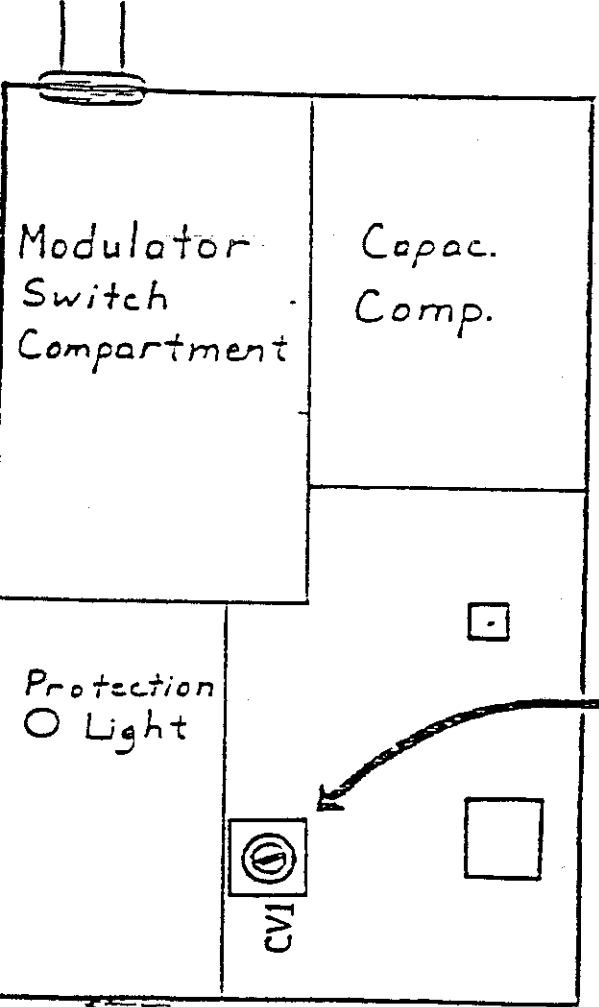
When experiencing background noise, such as humming or buzzing, with the R. F. Modulator, internal adjustment in the Modulator will usually alleviate the problem. This can be accomplished by the user by following the steps below and referencing the illustration below. This procedure is to be done while all equipment is on and operating. If you have the old version of the TI900 Video Modulator, this procedure does not apply.

(Materials required: one small, flat, thin-bladed screwdriver)

To correct the noise difficulty:

- 1) Turn the volume of the television all the way down, but do NOT turn it off
- 2) Select the Master Title Screen on the computer (FCTN =, if necessary)
- 3) Using the title screen color grid, fine tune the television to the best color picture

To Television
VHF Connectors



- 4) With the screwdriver, pry off the lid of the Modulator box by lifting under one edge of the lid near the indentation holding it on
- 5) Lift off the lid and turn the television volume up to half (50%)
- 6) Insert the blade of the screwdriver into the slot of the small box labelled CV1 (see fig.) and turn it slightly until the background noise is at a minimum (should take less than 1/8th of a turn)
- 7) After bending the Modulator lid edge back into place, put it back over the Modulator box and press it firmly into place until it snaps.

The system is now ready for optimum usage.

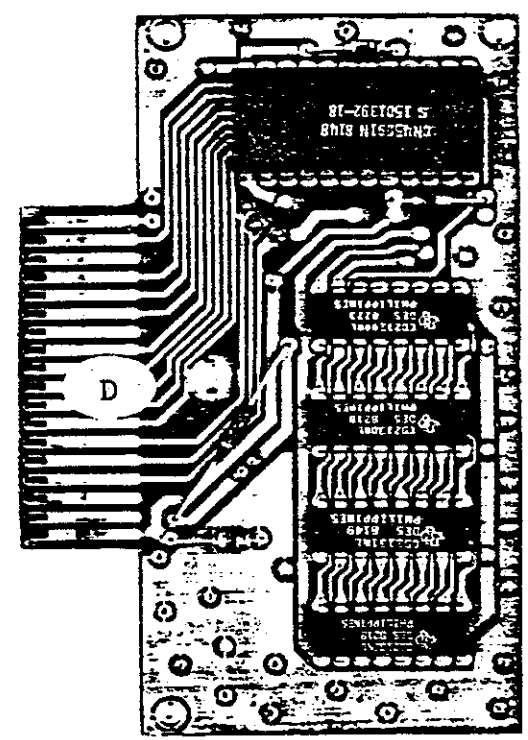
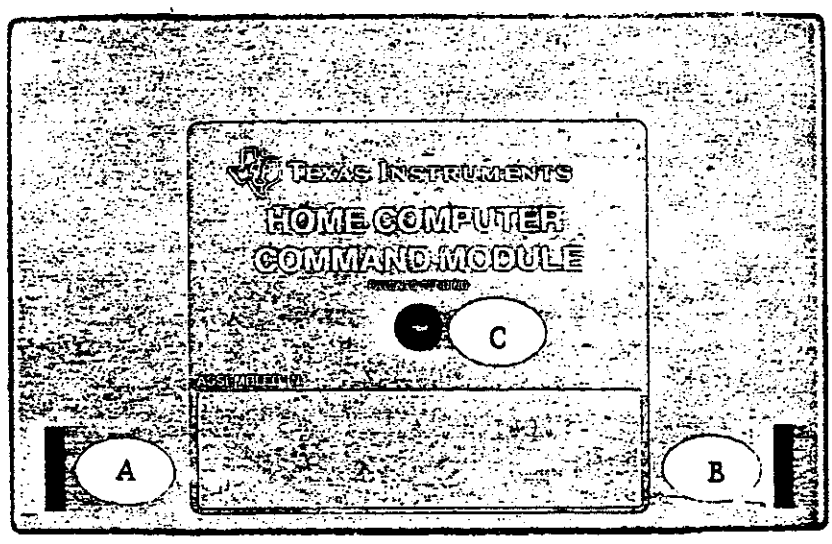
Insert
Screwdriver
Blade and
Turn gently
(No more than
1/8th turn)

To Console

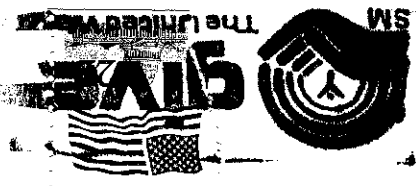
Dirty contacts can screw-up any electrical device and the 4A is not an exception. The only place you are fairly likely to run into this problem is in using command modules. Both the module contacts and the port itself can become dirty but cleaning the port itself is a big job as you have to disassemble the console. The good news is that cleaning the cartridge will almost always suffice and can be done quickly without any special tools or cleaners. All you need is a regular screwdriver, some sort of rag, a standard pencil eraser, and in some cases a medium phillips screwdriver.

Remove the screw from "C" if there is one. Then pry the clips in slots "A" and "B" outward to pop open the cartridge. If there is a clip in "C" pry it back after "A" and "B" are loose. If it should bend off don't worry, it won't affect the performance of your module.

The module board can now be removed. Do this carefully and note how the spring-loaded "door" is assembled if there is one so that you can put it back together if it pops out. Once you have the board removed take your rag (a kleenex will work but something cloth is much better) and rub off any residue from the contacts, shown as "D". Remember to do the contacts on both sides if that particular module has them. Once the dirt is removed take any soft rubber eraser and "erase" the contacts until they become dry, clean and shiny. You need to do only about the outer half of the contacts as that is more than ever gets used (you can see the scratch marks in the picture below). Once this is done simply put the cartridge back together and go. Some symptoms of dirty contacts are the console locking-up, strange errors where no occurred before, etc (my XB cartridge giving me a syntax error when there was non for example). Don't jump to clean a cartridge on your first error, it could be alot of things like static, not having the module in tight, or a number of other things. But if you find you have a continuing problem cleaning the contacts is quick and free and may correct what was wrong.



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8	9	10	11>>	12<<	13	14
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22	23	24	25	26	27	28
29	30					

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