THE OFFICIAL NEWSLETTER OF THE TI-99/4A

SEPTEMBER 1986 ISSUE NO. 12

FOR THE RECORD

by Ed Bittner
Recording Secretary

Having missed the August meeting of the West Penn 99'ers, I am attempting to write this article from a cassette tape which sounds like the data acquistion following "OLD CS1 ". To my knowledge the meeting opened in the middle of a sentence by J. Willforth (who else!) on newsletters which we receive from other clubs. John will make the recent issues available at meetings for our perusal and perhaps, with help, develop a system by which members could borrow them for a month. John also briefly discussed a Myarc 640K system (512K and 128K VDP RAM) at Mass. Univ.

We are attempting to move our meeting place to the Irwin Presb. Church. The club voted to allow such a move for the Sept. meeting ,if possible. Check the editors note as to where the Sept. meeting will take place. Scott announced that our new order of diskettes and data cases has come in and at $5.00 for 10 Diskettes or $7.00 for a data case, how could you not afford to SUPPORT YOUR CLUB !

Scott also asked for and received a unanimous vote to buy a bare bones system for the club for $50.00. John Willforth volunteered (the tape gets really fuzzy here) to build a mini-PEB box to supplement the clubs acquisition. A purchase of a full blown system for $400-$500 was not enthusiastically received by the club at this time. Those interested in modifying cartridges see Joe Echol or John Willforth at the Sept. meeting. They have suceeded in converting the Tombstone city cartridge (thank heaven) into Editor/ Assembler and others by replacement of a chip @< $5.00.

Demonstations of TI LOGO (Scott Coleman) and the Mini-PEB (John Willforth) received applause at their conclusion probably because they were over. Tom Linear demoed some of his own ,for sale , software including a menu program, HAL 1000 , Draw-Plot High-res graphics, and a word processor. Classes in Ext. Basic (Chuck Strink) and Assembler (Gene Kelly with interruptions from Clyde Colledge) were conducted following the main meeting.

Minded absently,

Scoops Bittner

PS. Whichever officer has the copies of the diskettes of the articles that I painstakingly typed in , please bring them to the Sept. meeting , demand is still high. I will bring a case of pop.!

Bye!

GETTING THE MOST FROM YOUR CASSETTE SYSTEM
BY MICKEY SCHMITT
NUMBER 5
CASSETTE - TIPS - TRICKS - AND TIDBITS
PART I

THIS MONTH'S TOPIC MAY SOUND A LITTLE STRANGE TO YOU - BUT I HOPE THAT IT PROVES TO BE WELL WORTH READING - AS I PASS ALONG WHAT I'VE LEARNED ABOUT COMPUTERS THE HARD WAY - AND WHAT I'VE LEARNED FROM MY FELLOW T.I. FRIENDS.

LOOKING BACK ON MY VERY "FIRST COMPUTER DAYS" IT'S HARD TO BELIEVE THAT I WAS ONCE SUCH A "ROOKIE". I KNEW ABSOLUTELY NOTHING ABOUT COMPUTERS BACK THEN (AS YOU WILL SOON FIND OUT!)

I WILL ALWAYS REMEMBER THE VERY FIRST THING THAT I EVER LEARNED ABOUT COMPUTERS - AND TO THIS DAY I AM STILL IMPRESSED WITH THE FACT. "THE COMPUTER USES THE SAME TYPE OF CASSETTE RECORDER AND CASSETTE TAPE TO STORE A PROGRAM ON - AS YOU WOULD USE TO RECORD YOUR FAVORITE MUSIC ON." WITH THIS THOUGHT IN MIND - I SOON LEARNED THAT IT WASN'T NECESSARY TO PURCHASE SPECIAL DATA CASSETTE TAPES FOR THE COMPUTER. THE STANDARD C-60 CASSETTES WILL WORK JUST FINE WITH YOUR COMPUTER AND THEY ARE SO MUCH MORE ECONOMICAL THAN THOSE "SPECIAL COMPUTER CASSETTES!"

OVER THE YEARS I HAVE DECIDED ON USING MAXELL C-60 CASSETTE TAPES FOR MY OWN PERSONAL COMPUTER USE - BUT I WILL BE THE FIRST TO ADMIT THAT THERE ARE ALOT OF OTHER BRANDS OF CASSETTE TAPES THAT WOULD WORK WITH YOUR COMPUTER JUST AS WELL. I WOULD HOWEVER CAUTION YOU AGAINST USING ANY TYPE OF RADIO SHACK CASSETTE TAPE (COMPUTER OR STANDARD) AND ANY TYPE OF CERTRON TAPE - AS THESE PARTICULAR BRANDS OF CASSETTE TAPES HAVE BEEN KNOWN TO GIVE PEOPLE TROUBLE IN THE PAST. BELIEVE ME - THERE IS NOTHING MORE FRUSTRATING THAN FINDING OUT THAT A PROGRAM WHICH YOU JUST SAVED ONTO ONE OF THESE TYPES OF CASSETTES - WILL NOT LOAD BACK PROPERLY FROM THE SAME CASSETTE AT A LATER TIME! THE REASON FOR THIS PARTICULAR PROBLEM OCCURING IS THAT THE PROGRAM IS BEING PLAYED BACK AT A SLIGHTLY DIFFERENT TAPE SPEED THAN WHICH IT WAS RECORDED AT - THUS CREATING A SLIGHT DISTORTION IN THE SOUND OF THE TAPE. AS A WORD OF WARNING: USING EITHER OF THESE TWO BRANDS OF CASSETTES MAY BE HAZARDOUS TO YOUR PRESENT STATE OF MIND!

IN KEEPING WITH MY PROMISE THAT I MADE LAST MONTH THAT YOU WOULD ENJOY A GOOD LAUGH AT MY OWN EXPENSE - JUST WAIT TILL YOU HEAR WHAT I USED TO DO. WOULD YOU BELIEVE THAT I USED TO LOAD PROGRAMS INTO MY COMPUTER - RUN THEM - AND THEN SAVE THEM BACK ONTO THEIR ORIGINAL CASSETTES IN THE VERY SAME LOCATION AS THEY WERE ON THE TAPE IN THE FIRST PLACE. (WITHOUT EVER EDITING THE PROGRAMS!) DON'T ASK ME WHERE I EVER GOT THE IDEA THAT ONCE YOU LOADED A PROGRAM OFF OF TAPE - THAT IT WAS "PHYSICALLY" REMOVED FROM THE TAPE - BUT THAT IS THE IMPRESSION THAT I WAS UNDER BACK THEN. OF COURSE I PLEAD THAT AT THAT TIME IN MY "COMPUTER LEARNING" I WAS NOT A MEMBER OF ANY COMPUTER CLUB NOR DID I KNOW ANYONE WHO EVEN OWNED A COMPUTER - SO I WAS LEFT TO STRUGGLE ON MY OWN AND MAKE ALOT OF MISTAKES ALONG THE WAY IN THE PROCESS. I DID LEARN THIS THE HARD WAY - BUT I BET THAT I'LL NEVER FORGET IT EITHER: "IF YOU ARE ONLY RUNNING A PROGRAM AND ARE NOT MAKING ANY CHANGES IN THE PROGRAM WHATSOEVER - IT IS NOT NECESSARY TO SAVE A PROGRAM BACK ONTO ITS ORIGINAL CASSETTE - IN ITS ORIGINAL TAPE LOCATION - BECAUSE IT NEVER REALLY LEFT THE TAPE IN THE FIRST PLACE!" IT IS ALWAYS THERE (UNLESS YOU RECORD OVER IT!) YOU MAY LAUGH IF YOU WISH - BUT IT'S ALL A PART OF LEARNING AND WE ALL HAD TO START SOMEWHERE!

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

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

MICKEY SCHMITT

T. I. Writer (Part 2) Stan Katzman

Errors. This part is about error corrections. I don't know about you but I am one of the worlds worst typists. On a normal typwriter I make so many typing errors it is pathetic. The ability to correct errors before the text is put to paper is one of the greatest assets of word processing. So let's talk about some of the ways to correct errors.

If you are typing along in T. I. Writer and you see that you entered the wrong letter just use Fctn S (<--) and retype the correct letter. That's easy enough.

Sometimes you will notice an entire word misspelled. Just take the cursor back to the word and type over it correctly.

Sometimes you will leave out a letter or letters in a word or even a word or words in sentence. This correction is a little more complicated but easy enough. Place the cursor one space after the place you want to start and then press Fctn 2 (Insert Character). You will see the line split and then type your insert correction. Now you want everything closed up again and normal. You do this by pressing Ctrl 2 (Reformat). This will put everything in order. Reformat is very handy for adding words phrases and even sentences. Try it out, you will find it very convenient.

Sometimes you will not like a line of text. To correct this just press Fctn 3 (Delete Line) and the entire line will be erased.

Another more complicated method of correcting errors or making changes is with the SearcH directive in Command Mode. To do this go the the Command Mode (Fctn 9) and the press SH and then <enter>. You will now see "FindString or ReplaceString". Let us now press RS and <enter> and you will now see "REPLACE enter/old string/new string/:". Let us say you misspelled Brown as Brawn to correct this enter "/Brawn/Brown/" and press <enter>. The cursor will then stop at the first instance of "Brawn" and you will see "REPLACE STRING (Yes,No,All,Stop)? If you want this word replaced with "Brown" press Y and the cursor will go to the next instance and repeat as above. If you want all instances of "Brawn" replaced with "Brown" press A the rest of the directives, No and Stop are self explanatory.

T. I. Writer has what is known as a Screen Editor. Which means that any mistake can be corrected anywhere on the screen. Just get the cursor on the error anywhere on the screen and make the appropiate corrections. There are word processors that are only line editors. Which means that you can only correct one line at a time on the screen. I feel that a screen editor is more convenient.

Try these processes to correct errors and more next time.

WANTED: EDITOR/ASSEMBLER MODULE (ORIGINAL OR BUILT) CONTACT MICKEY SCHMITT
TOUCH TYPING TUTOR MODULE, CONTACT JIM SIMPSON, (412) 744-3014

FOR SALE: VARIOUS MAXWELL C-60 CASSETTE TAPES COMPLETE WITH PROGRAMS, LABELS, AND CATALOGS) $1.00 - $2.00 PER TAPE. SEE MICKEY AT MEETING !!!!!!!!!
T.I. CONSOLE---WITH BUILT IN MEMORY, BUILT IN SPEECH, MASTER RESET SWITCH(LIKE ON WIDGET), ALL FOR ONLY $150. OR CALL, MAYBE WE CAN MAKE A DEAL. JOHN F. WILLFORTH R.D.#1 BOX 73A JEANNETTE,PA 15644 (412) 527-6656 AFTER 8:00 PM.

BASIC BASICS
by
Charles Strink

Since our basic class is now into Extended basic perhaps we should now call this section Basic Extended Basics.

Ever been working with a program and somehow create an error causing the program to bomb out and lose all the data?

The ON ERROR statement is your safety valve within the program to keep it from crashing.

ON ERROR determines what action should be taken if an error occurs while the program is running. The default action is STOP, but you can change that anytime you want.

At the beginning of the program place the following statement;

```
5 ON ERROR 6000
```

the 6000 can be any line number you want to use for the following sub-routine.

```
6000 ON ERROR 5::CALL ERR(CODE,
     TYPE,SEVER,LINE)::DISPLAY
     AT(12,1)ERASE ALL:"THE
     FOLLOWING ERROR HAS OCCURED
        ";CODE;"IN LINE ";LINE
6010 FOR DELAY=1 TO 500::NEXT
     DELAY::RETURN
```

I will not go into a lengthy explanation of the above subroutine. You can find that information by reading pages 131,132 and 158 of your Extended Basic Manual.

UNTIL NEXT TIME.....

.....HAPPY COMPUTING

NEXT MEETING

SEPTEMBER 15TH WILL BE THE DATE, AND 7:00 WILL BE THE TIME, AND THE PLACE WILL AGAIN BE THE NORWIN Y.M.C.A.. WE ARE WORKING ON A COUPLE OF PLACES TO MOVE OUR MEETINGS TO, BUT NOTHING CAN YET BE SETTLED.

FOLLOWING THE MEETING, AT ABOUT 8:30, WE WILL HAVE THE XBASIC S.I.G., CONDUCTED BY MR. CHARLES STRINK. THE ASSEMBLY S.I.G. IS CONDUCTED BY MR. GENE KELLY (WITH ASSISTANCE ? FROM MR. CLYDE COLLEDGE), AND WILL ALSO START AT ABOUT 8:30. I'VE BEEN ATTENDING THE ASSEMBLY CLASS, AND IF YOU WANT TO LEARN HOW TO USE THE "EXPLORER", THESE GUYS CAN SURE SHOW YOU!

JAN TELLS ME THAT WE HAVE A FEW NEW MEMBERS, AND FOR YOUR INFORMATION, THAT BRINGS OUR CLUB MEMBERSHIP UP TO NEARLY 50 MEMBERS.

I'VE GOT TO ASK A DIFFICULT QUESTION NOW ON WEATHER ANOTHER NIGHT COULD BE SUITABLE FOR YOU AS A MEETING NIGHT. ....**IF**....MONDAY NIGH CANNOT BE SCHEDULED FOR OUR MEETINGS AT THE LOCATIONS WE ARE LOOKING AT, WOULD THE 3RD OR 4TH TUESDAY, OR ANY THURSDAY BE OK WITH YOU? IF YOU CAN DETERMINE THAT ONE OR MORE OF THE ABOVE DAYS OF THE MONTH SUITS YOU, P L E A S E LET MYSELF OR ONE OF THE OTHER OFFICERS KNOW BY **WRITTEN** FORM. WE WOULD LIKE TO HAVE **YOUR** INPUT ON THIS, SINCE WHEN THE EXECUTIVE COMMITTEE MEETS, WE CAN CHOOSE A NIGHT THAT IS THE MOST SUITABLE TO THE GENERAL MEMBERSHIP.

I DON'T KNOW IF YOU HAVE NOTICED, BUT MOST OF THE ARTICLES THAT APPEAR IN THIS NEWSLETTER ARE WRITTEN BY OUR OWN PEOPLE, WITH A FEW JUST A FEW TAKEN FROM THE MANY WONDERFULL NEWSLETTERSWE RECEIVE EACH MONTH. KEEP UP THE GOOD WORK, AND FOR THE REST OF YOU WHO HAVEN'T AS OF YET CONTRIBUTED, I HOPE YOU WILL BY THE NEXT ISSUE.

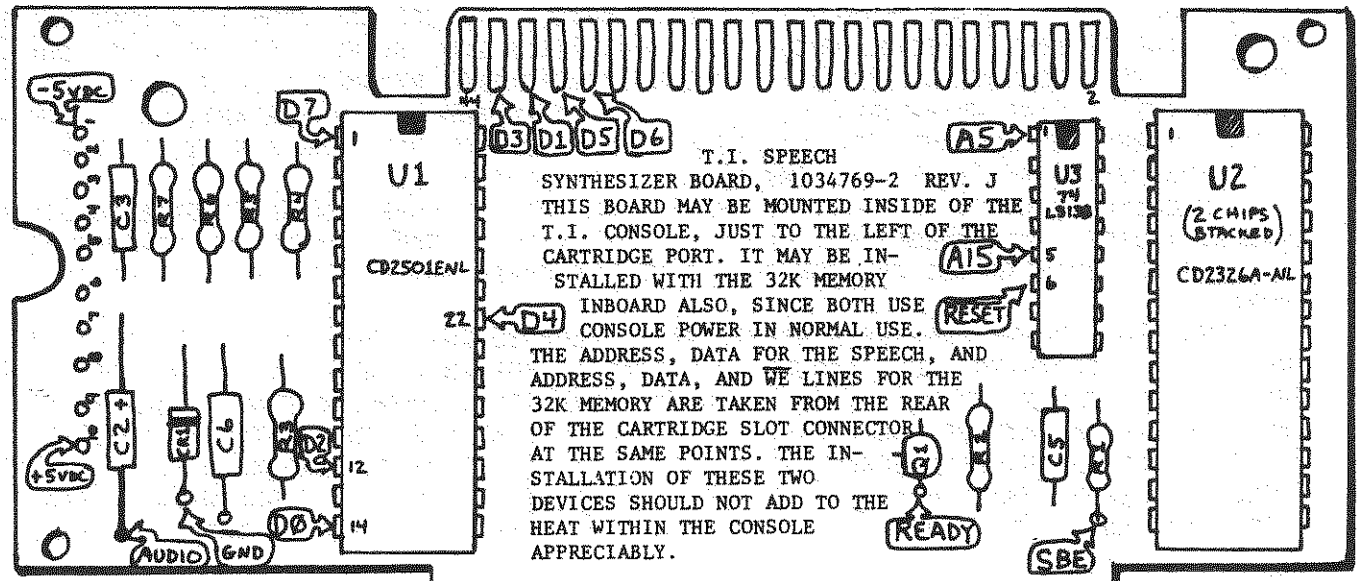
BY THE WAY, IF YOU DO CONTRIBUTE AN ARTICLE PLEASE HAVE IT TO ME BY THE FIRST OF THE MONTH SO THAT I CAN GET THE LETTER TOGETHER AND HAVE IT PRINTED, FOLDED, STAMPED, AND MAILED. I KNOW THAT IT SEEMS A SIMPLE MATTER, BUT IT IS VERY IMPORTANT TO GET THE LETTER OUT **BEFORE** THE MEETING!

AUGUST TREASURERS' REPORT

BALANCE CARRIED FROM JULY	$480.93
RECEIVED IN AUGUST:	
2 new memberships & donations.....	49.50
raffle	11.(
pop sales	10.50
sale of disks & data case	112.00
TOTAL INCOME FOR AUGUST	$ 183.00
PAID IN AUGUST	
cost of 500 disks and 12 data cases	237.70
rent for rooms	10.00
postage for newsletter	38.50
paid to Scott Coleman for a club computer ..	50.00
TOTAL EXPENSES FOR AUGUST	$ 343.20
BALANCE CARRIED	$ 320.93

PRES.....SCOTT COLEMAN	(412)	271-62
V. PRES....CHUCK STRINK.....	(412)	668-2811
SECRETARY..ED BITTNER.....	(412)	864-4924
COR. SECT..GENE KELLY.....	(412)	829-0469
TREASURER..JAN TRAYERS.....	(412)	863-1575
LIBRARIAN..CLYDE COLLEDGE.....	(412)	828-3042
EDITOR.....JOHN WILLFORTH.....	(412)	527-6656

INFORMATION NECESSARY TO PUT SPEECH SYNTHESIZER INSIDE OF CONSOLE
(THIS MAY BE DONE IN ADDITION TO 32K INTERNAL MEMORY)

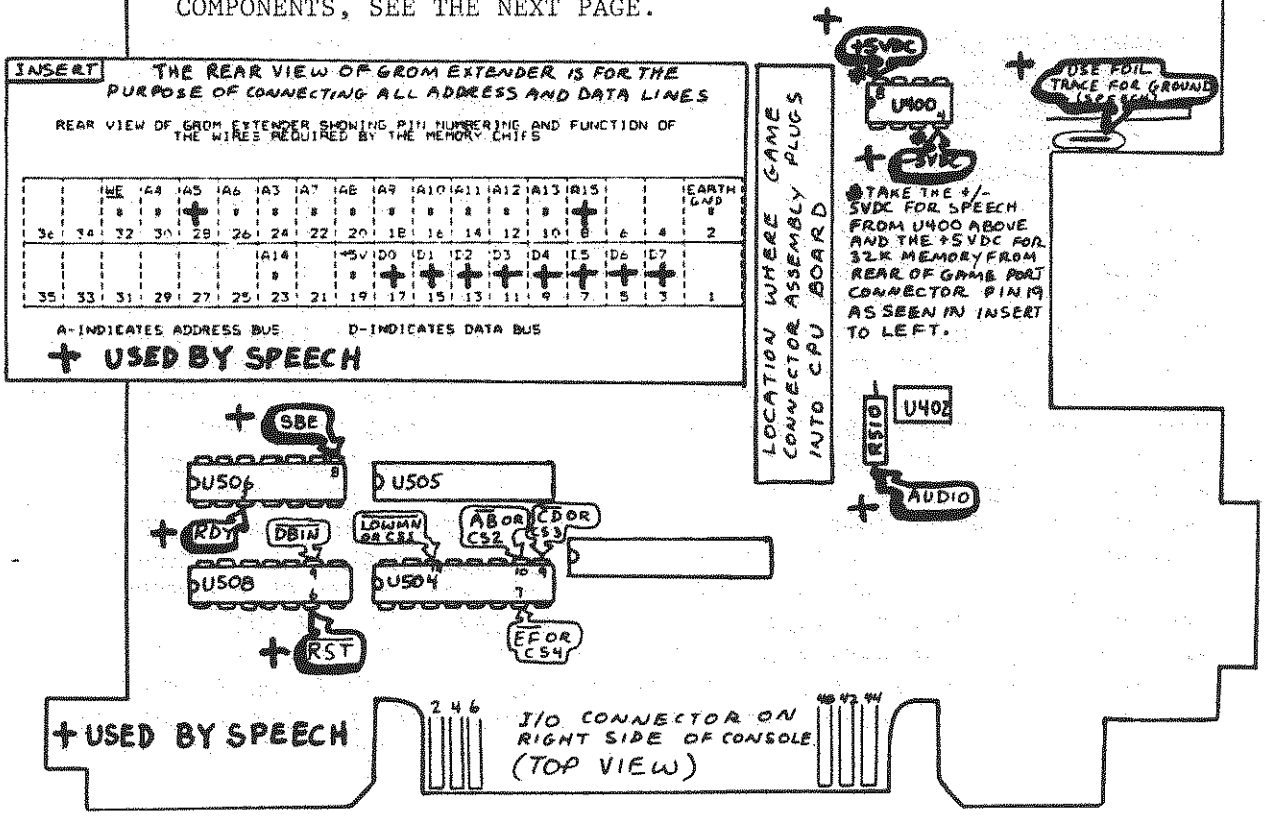


T.I. SPEECH SYNTHESIZER BOARD, 1034769-2 REV. J THIS BOARD MAY BE MOUNTED INSIDE OF THE T.I. CONSOLE, JUST TO THE LEFT OF THE CARTRIDGE PORT. IT MAY BE INSTALLED WITH THE 32K MEMORY INBOARD ALSO, SINCE BOTH USE CONSOLE POWER IN NORMAL USE. THE ADDRESS, DATA FOR THE SPEECH, AND ADDRESS, DATA, AND $\overline{WE}$ LINES FOR THE 32K MEMORY ARE TAKEN FROM THE REAR OF THE CARTRIDGE SLOT CONNECTOR AT THE SAME POINTS. THE INSTALLATION OF THESE TWO DEVICES SHOULD NOT ADD TO THE HEAT WITHIN THE CONSOLE APPRECIABLY.

MUCH CREDIT MUST BE GIVEN TO THE CEDAR RAPIDS USERS GROUP FOR THEIR CONTINUED EFFORTS IN MODIFYING THE HARDWARE FOR THE T.I. 99. GARY BISHOP ESPECIALLY.

BLACK PLASTIC CONNECTOR
I/O TO CONSOLE CONNECTOR ON RIGHT SIDE OF THE T.I. 99/4A COMPUTER.

THERE ARE 17 ADDRESS, DATA, CONTROL, AND POWER LINES THAT GO FROM THE SPEECH UNIT ABOVE TO THE CPU BOARD BELOW. FOR EASE OF LOCATING IN THIS DRAWING, I HAVE SHOWN THEM ON ONE SIDE OF THE BOARD. IF YOU WOULD LIKE TO MAKE ALL OF YOUR CONNECTIONS ON THE SPEECH UNIT AT THE CONSOLE I/O CONNECTOR RATHER THAN ON THE COMPONENTS, SEE THE NEXT PAGE.



IF YOU DECIDE THAT REMOVING THE TRUSTY SPEECH SYNTHESIZER FROM IT'S HOME ON THE RIGHT SIDE OF YOUR CONSOLE, WHERE IT'S BEEN SINCE YOU SPENT $240 SOME ODD DOLLARS (SIX CARTRIDGES YOU GET ONE FREE SPEECH SYNTHESIZER, REMEMBER?), JUST TO PUT IT INSIDE THE MACHINE WHERE NO ONE, NOT EVEN YOUR FRIEND WITH THE ATARI, OR THE COMMADOR (WHO BY THE WAY PROBABLY DOESN'T EVEN HAVE SPEECH ON HIS)CAN SEE IT, IS WORTH IT, THEN READ ON. (SAY THAT WITH ONE BREATH WILL YOU?)

I'M GOING TO LEAVE THE FACT OF WEATHER OR NOT YOU HAVE ALREADY INSTALLED 32K OF MEMORY INSIDE YOUR CONSOLE NOT CLOUD THE DESCRIPTION HERE, EXCEPT TO STATE THAT THERE IS ROOM FOR BOTH INSIDE THE CONSOLE ABOVE THE UPPER SHIELD, TO THE LEFT OF THE GROM PORT.

FIRST YOU SHOULD PREPARE A STATIC FREE PLACE TO WORK, NO CARPET UNDERFOOT, TRY TO WEAR COTTON CLOTHING, MOVE AROUND AS LITTLE AS POSSIBLE, AND TRY TO PROVIDE YOURSELF WITH A GOOD EARTH GROUND AT THE IMMEDIATE WORK AREA. GOOD LIGHTING IS IMPORTANT, AND THE JOB WILL ALWAYS PROGRESS FASTER AND YOU WILL BE LESS FRUSTRATED IF YOU HAVE THE RIGHT TOOLS. A PHILLIPS SCREWDRIVER (#2), A 15 to 25 WATT (GROUNDED IF POSSIBLE) SOLDERING IRON, SMALL GUAGE RESIN CORE SOLDER, 10" OF RIBBON CABLE WITH AT LEAST 17 WIRES (OR ANY MULTI-STRAND WIRE EQUIVELANT TO THIS), ELECTRICAL TAPE, AN EXACTO (TYPE) KNIFE, SMALL SIDE CUTTERS OR WIRE STRIPPERS, AND A SMALL PAIR OF PLIARS, PREFERABLY NEEDLE NOSE.

REMOVE THE SPEECH SYNTHESIZER UNIT FROM THE ENCLOSURE, AND TAKE THE SHIELDING OFF OF THE BOARD. USING THE TOP PART OF THE DRAWING ON THE PREVIOUS PAGE, ORIENT YOURSELF WITH THE COMPONENT LAYOUT, AS WELL AS THE PIN LOCATIONS ON THE VERY TOP OF THE CARD ITSELF WHERE D3, D1, D5, D6 ARE SHOWN . IF YOU DO NOT WANT ANY CONNECTIONS MADE TO COMPONENTS, YOU CAN ALSO MAKE ALL YOUR CONNECTIONS TO THE PINS COMING FROM THE BLACK PLASTIC CONNECTOR WHICH SOLDERS TO THE SPEECH CIRCUIT CARD. THE PIN NUMBERS ARE:

PIN:	TERM:	PIN:	TERM:	PIN:	TERM:	PIN:	TERM:
1	+5V	19	A15	36	D6	40	D1
2	SBE	23	GND	37	D0	42	D3
3	RESET	34	D7	38	D5	43	-5V
5	A5	35	D4	39	D2	44	AUDIO
12	RDY						

MAKING THE ABOVE CONNECTIONS WILL KEEP THE BOARD CLEAN AND ELIMINATE THE LIKELY-HOOD OF DAMAGING A CHIP IN THE SPEECH UNIT WITH A HOT SOLDERING IRON, AS WELL AS ENABLING THE WIRES TO GO TO A MORE COMPACT LOCATION ON THE BOARD.

ATTACH THE WIRES TO THE BOARD EITHER AS SHOWN IN THE DRAWING OR TO THE EDGE CON-NECTOR AS DESCRIBED ABOVE.

REMOVE THE COVER FROM YOUR T.I. COMPUTER, AND TAKE THE TOP SHIELD OFF OF THE CPU BOARD. (THE BOARD MUST BE OF THE OLDER TYPE, IN THAT WITH THE BOARD LYING ON THE WORK AREA AS IT WOULD BE IF YOU WERE ACTUALLY USING IT, THE GROM PORT AND I/O PORT ON THE RIGHT, THE CPU PROCESSOR CHIP, THE 64 PIN CHIP, MUST BE HORIZONTAL TO THE FRONT EDGE OF THE CPU CARD) IF THE CPU CHIP IS VERTICLE TO THIS EDGE, THAT IS GOING AWAY FROM YOU, CLOSE THE MACHINE BACK UP AND STOP WITH THIS PROJECT.

YOU MAY LOOK AT THE TOP SHIELD AND SEE THE BEST WAY FOR YOU TO ROUTE THE WIRES THAT GO TO THE CPU BOARD COMPONENTS, THROUGH IT. THESE WIRES COME FROM PINS, 1,2,3, 12,23,43, AND 44 AS SHOWN ABOVE. YOU MAY WISH TO CUT A SLOT IN THE SHIELD FROM ONE EDGE TOWARD THE CENTER OF THE SHIELD AND PROTECT THE EDGE WITH SILICONE CAULKING, OR USE JUST ELECTRICAL TAPE, TO PREVENT DAMAGE TO THE WIRES THAT GO TO THE CPU BOARD.

ATTACH THE 7 WIRES JUST MENTIONED, INSTALL THE SHIELD, AND ATTACH THE REMAINING 10 WIRES, D0 THRU D7 AND A5, AND A15 TO THE REAR OF THE GROM CONNECTOR AS SHOWN IN THE INSERT ON THE FIRST PAGE. INSULATE THE BOARD FROM THE SHIELD EITHER BY USING NYLON OR PLASTIC SLEEVES AND SCREWS TO HOLD THE BOARD ABOUT 1/4" TO 1/2" ABOVE THE TOP SHIELD. ASSEMBLE THE CONSOLE. USE A SPEECH CARTRIDGE, OR WHATEVER MEANS YOU HAVE TO TEST OUT THE CARTRIDGE. SEE I TOLD YOU THIS WOULD BE SIMPLE. GOOD LUCK!

JOHN F. WILLFORTH WP99'ERS
(412) 527-6656

TIPS FROM THE TIGERCUB

#38

TIGERCUB SOFTWARE
156 Collingwood Ave.
Columbus, OH 43213

Over 130 original programs in Basic and Extended Basic, available on casette or disk, only $3.00 each plus $1.50 per order for PPM. Entertainment, education, programmer's utilities.
Descriptive catalog $1.00, deductable from your first order.
Tips from The Tigercub, a full disk containing the complete contents of this newsletter Nos. 1 through 14, 50 original programs and files, just $15 postpaid.
Tips from the Tigercub Vol. 2, another diskfull, complete contents of Nos. 15 through 24, over 60 files and programs, also just $15 postpaid.

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

Nuts & Bolts (No. 1), a full disk of 100 Extended Basic utility subprograms in merge format, ready to merge into your own programs. Plus the Tigercub Menuloader, a tutorial on using subprograms, and 5 pages of documentation with an example of the use of each subprogram. All for just $19.95 postpaid.
Nuts & Bolts No. 2, another full disk of 100 utility subprograms in merge format, all new and fully compatible with the last, and with 10 pages of documentation and examples. Also $19.95 postpaid, or both Nuts Bolts disks for $37 postpaid.
Tigercub Full Disk Collections, just $12 postpaid! Each of these contains either 5 or 6 of my regular $3 catalog programs, and the remaining disk space has been filled with some of the best public domain programs of the same category. I am NOT selling public domain programs - my own programs on these disks are greatly discounted from their usual price, and the public domain is a FREE bonus!
TIGERCUB'S BEST, PROGRAM-TUTOR, PROGRAMMER'S UTILITIES, BRAIN GAMES, BRAIN TEASERS, BRAIN BUSTERS!, MANEUVERING GAMES, ACTION REFLEX AND CONCENTRATION, TWO-PLAYER GAMES, KID'S GAMES, MORE GAMES, WORD GAMES, ELEMENTARY MATH, MIDDLE/HIGH SCHOOL MATH, VOCABULARY AND READING, MUSICAL EDUCATION, KALEIDOSCOPES AND DISPLAYS

For descriptions of these send a dollar for my catalog!

I have discovered a rare bug in the 28-Column Converter, published in Tips #18, which will cause an I/O 25 ERROR if the very last line of the program being converted happens to have exactly 80 characters. You can fix it by adding a line -

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

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

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

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

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

```
200 D=D-1 :: IF ABS(D-D2)=2
OR R+(D=1)=0 OR R-(D=3)=25 O
R C+(D=4)=2 OR C-(D=2)=31 TH
EN 180 :: GOSUB 510 :: IF D<
>D2 THEN GOSUB 450
```

I wrote the dulcimer music in Tips #36 in Basic, but I forgot to test it in Basic. It actually runs much better in Extended Basic, but will run fairly well in Basic if you delete the delays in lines 200 and 300.

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

```
110 DISPLAY AT(12,1):"Press
-":" Q for new pattern":"
B to change background":" F
to change foreground":" R to
 reverse colors": : :"Any ke
y to start"
280 A=INT(6*RND+3):: H=INT(2
4/A):: RX=24-H*A :: HC=INT(2
8/A):: CX=28-HC*A :: W=ABS(H
C/2*INT(HC/2))-(RX>0)):: DIM
M(8,8):: FOR P=1 TO A
330 IF K<>66 THEN 346
340 BC=BC+1+(BC=16)*15 :: IF
 BC=F THEN 340 ELSE 347
346 IF K<>78 THEN 360 :: F=F
+1+(F=16)*15 :: IF F=BC THEN
 346
347 FOR S=7 TO 14 :: CALL CO
LOR(S,F,BC):: NEXT S :: GOTO
 310
350 ! **DELETED LINE **
360 IF K<>ASC("R")THEN 310 :
: T=F :: F=BC :: BC=T :: GOT
O 347
600 GOSUB 900 :: FOR T=1 TO
A :: DISPLAY AT(R-1+T,C):M$(
V,T):: NEXT T :: NEXT C
601 IF CX>0 THEN AA=A :: GOS
UB 800
605 GOSUB 1500 :: NEXT R
606 IF RX=0 THEN 610
607 GOSUB 1000 :: FOR C=1 TO
 A*HC STEP A :: GOSUB 900 ::
 FOR T=1 TO RX :: DISPLAY AT
(R-1+T,C):M$(V,T):: NEXT T :
: NEXT C
608 IF CX>0 THEN AA=RX :: GO
SUB 800
800 GOSUB 900 :: FOR T=1 TO
AA :: DISPLAY AT(R-1+T,C):SE
G$(M$(V,T),1,CX);:: NEXT T :
: RETURN
900 V=V+1+(V=4)*4 :: RETURN
1000 V=V+W :: V=V+(V>4)*4 ::
 RETURN
```

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

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

```
17@ IF (S=@)+(K<49)+(K>56)TH
EN 16@
18@ ON K-48 GOTO 19@,25@,61@
,88@,38@,99@,112@,151@
19@ X=@
20@ INPUT "SUBJECT? ":S$
21@ GOSUB 137@
22@ INPUT "TEST #? ":N
23@ GOSUB 144@
24@ GOTO 14@
25@ PRINT :;:"(1)ADD NAMES?"
:"(2)ADD GRADES?"
26@ CALL KEY(@,K,S)
27@ IF (S=@)+(K<49)+(K>5@)TH
EN 26@
28@ ON K-48 GOTO 29@,31@
29@ GOSUB 137@
3@@ GOTO 14@
31@ INPUT "TEST #? ":Q
32@ IF T(1,Q)=@ THEN 35@
33@ PRINT :;:"TEST #";STR$(Q
);" ALREADY RECORDED"
34@ GOTO 14@
35@ N=Q
36@ GOSUB 144@
37@ GOTO 14@
38@ CALL CLEAR
39@ PRINT "OUTPUT TO":"(1)SC
REEN?";"(2)PRINTER?"
4@@ CALL KEY(@,K,S)
41@ IF (S=@)+(K<49)+(K>5@)TH
EN 4@@
42@ IF K=49 THEN 46@
43@ INPUT "PRINTER DESIGNATI
ON? ":P$
44@ OPEN #2:P$
45@ F@=2
46@ PRINT "PRESS ANY KEY TO
PAUSE": :
47@ PRINT @F@:S$: :
48@ FOR J=1 TO X
49@ PRINT #F@:"";N$(J)&" ";T
AB(1@);
5@@ FOR K=1 TO HN
51@ PRINT #F@:T(J,K);
52@ NEXT K
53@ CALL KEY(@,K,S)
54@ IF S<>@ THEN 53@
55@ NEXT J
56@ PRINT @F@
57@ IF F@=@ THEN 14@
58@ F@=@
59@ CLOSE #2
6@@ GOTO 14@
61@ PRINT :;:"(1)CASETTE?":"
(2)DISK?"
62@ CALL KEY(@,K,S)
63@ IF (S=@)+(K<49)+(K>5@)TH
EN 62@
64@ ON K-48 GOTO 65@,67@
65@ OPEN #2:"CS1",INPUT ,FIX
ED
66@ GOTO 69@
67@ INPUT "FILENAME? DSK":F$
68@ OPEN #2:"DSK"&F$,INPUT
69@ INPUT #2:X,HN,S$
7@@ FOR J=1 TO X
71@ INPUT #2:K$
72@ N$(J)=SEG$(K$,1,POS(K$,C
HR$(255),1)-1)
73@ K$=SEG$(K$,POS(K$,CHR$(2
55),1)+1,255)
74@ FOR K=1 TO HN
75@ T(J,K)=ASC(SEG$(K$,K,1))
-5@
76@ NEXT K
77@ NEXT J
78@ CLOSE #2
79@ GOTO 14@
8@@ PRINT :;:"(1)CASETTE?":"
(2)DISK?"
81@ CALL KEY(@,K,S)
82@ IF (S=@)+(K<49)+(K>5@)TH
EN 81@
83@ ON K-48 GOTO 84@,86@
84@ OPEN #2:"CS1",OUTPUT,FIX
ED
85@ GOTO 88@
86@ INPUT "FILENAME? DSK":F$
87@ OPEN #2:"DSK"&F$,OUTPUT
88@ PRINT #2:X:HN:S$
89@ FOR J=1 TO X
9@@ K$=""
91@ FOR K=1 TO HN
92@ K$=K$&CHR$(T(J,K)+5@)
93@ NEXT K
94@ PRINT #2:N$(J)&CHR$(255)
&K$
95@ K$=""
96@ NEXT J
97@ CLOSE #2
98@ GOTO 14@
99@ CALL CLEAR
1@@@ INPUT "STUDENT'S NAME?
":Q$
1@1@ FOR J=1 TO X
1@2@ IF N$(J)=Q$ THEN 1@6@
1@3@ NEXT J
1@4@ PRINT :;:"NAME NOT FOUN
D": :
1@5@ GOTO 14@
1@6@ INPUT "CORRECT WHICH TE
ST? (@ TO QUIT) ":C
1@7@ IF C=@ THEN 111@
1@8@ PRINT :;:N$(J);"'S TEST
 #";STR$(T(J,C)): :
1@9@ INPUT "CORRECT TO? ":T(
J,C)
11@@ GOTO 1@6@
111@ GOTO 14@
112@ CALL CLEAR
113@ PRINT "OUTPUT TO":"(1)S
CREEN?";"(2)PRINTER?"
114@ CALL KEY(@,K,S)
115@ IF (S=@)+(K<49)+(K>5@)T
HEN 114@
116@ IF K=49 THEN 12@@
117@ INPUT "PRINTER DESIGNAT
ION? ":P$
118@ OPEN #2:P$
119@ F@=2
12@@ PRINT @F@:S$
121@ FOR J=1 TO X
122@ PRINT @F@:N$(J);" AVERA
GE ";
123@ FOR K=1 TO HN
124@ TT=TT+T(J,K)
125@ NEXT K
126@ AV=TT/HN
127@ TAV=TAV+AV
128@ PRINT @F@:AV
129@ TT=@
13@@ NEXT J
131@ PRINT @F@:"CLASS AVERAG
E ";TAV/X
132@ TAV=@
133@ IF F@=@ THEN 136@
134@ F@=@
135@ CLOSE #2
136@ GOTO 14@
137@ PRINT :;:"STUDENT'S NAM
ES - ":"type END when finish
ed": :
138@ X=X+1
139@ M$="NAME @"&STR$(X)&" "
14@@ INPUT M$:N$(X)
141@ IF N$(X)<>"END" THEN 13
8@
142@ X=X-1
143@ RETURN
144@ FOR J=1 TO X
145@ M$=N$(J)&"'S GRADE? "
146@ INPUT M@:T(J,N)
147@ NEXT J
148@ IF N<HN THEN 24@
149@ HN=N
15@@ RETURN
151@ END
```

The reason that 5@ is added to the value in line 92@, before saving, and subtracted again in line 75@ after loading, is because of a quirk of the computer that I don't recall seeing in print anywhere. Did you know that INPUT will read a string beginning with ASCII @, 2, 4, 7, 1@, 12, 14, 18, 2@, 26, 27, 31, 32, or 44 as a null string (a blank), and will drop these characters at the end of a string? And ASCII 32 will be dropped at the beginning or end of a string. And ASCII @ within a string, or ASCII 34 anywhere, will crash, while ASCII 44 within a string will lose the rest of the string. I should have known what ASCII @, 32 (the space), 34 (quotes) and 44 (comma) would do, but why the others?

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

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

Which led me to some fooling around -

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

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

MEMORY FULL

Jim Peterson

DISK DRIVE SPECIFICATIONS

MANUFACTURER	MODEL#	SIDE HIGH	SIDE DENS	TPI	BYTES	5 V PWR	12V PWR	ACCES TIME	MOTOR DRIVE	COMMENT
AlpsElectric	FDD2225	1/2								
Canon	MDD211	1/2	DSDD	48	360K					
C.D.C.	9409	Full	DSDD	48	360K					
C.D.C.	9428	1/2	DSDD	48	360K				Drect	
Epson	SD521	1/2	DSDD	48	360K	.4A	.4A	6MSEC	Drect	2 OK in PBox
Hitachi	HFD505B	1/2								
Matsushita	JA551	1/2								
Matsushita	JA551-2N	1/2	DSDD	48	360K			6MSEC		Full Pwr Req
Micropolis	115V	Full	DSQD							
Mitshubishi	M4851	1/2	DSDD	48	360K					
Mitshubishi	M4853	1/2	DSQD	96	720K	.5A	.7A			
MPI	B51	Full	SSSD	48	90K				Belt	Sold in PBox
MPI	B52	Full	DSDD							Full Pwr Req
MPI	501C-200	1/2								
MPI	502B-100	1/2	DSDD							
National	JA551-2N	1/2	DSDD	48	360K			6MSEC		
Panasonic	JA551-2N	1/2	DSDD	48	360K			6MSEC		Full Pwr Req
Qumetrack	142	1/2	DSDD	48	360K				Belt	Full Pwr Req
Qumetrack	142LX	1/2	DSDD	48	360K					
Qumetrack	542	Full		48						
Remex	RFD480	2/3	DSDD	48	360K				Drect	
Sanyo	FDA5200B/PC	1/2	DSDD	48	360K					
Sanyo	SM548D	1/2	DSDD	48	360K			6MSEC	Drect	
Shugart	SA-400L	Full	SSSD	48	90K				Belt	Sold In PBox
Shugart	SA-405L	Full	DS							Full Pwr Req
Shugart	SA455-2	1/2	DSDD	48	360K	.6A	.6A	6MSEC		2 OK in PBox
Shugart	SA465	1/2	DSQD	96	720K					
Shugart	SA475	1/2		96	1.6M					For the "AT"
Siemens	FDD100-5	Full	SSSD	48	90K				Belt	Sold in PBox
Tandon	TM50-1	1/2	SSSD							
Tandon	TM55-1	1/2	SSSD							Full Pwr Req
Tandon	TM55-2	1/2	DSDD	48	360K			6MSEC		Full Pwr Req
Tandon	TM55-4	1/2	DSQD	96	720K					Full Pwr Req
Tandon	TM65-2L	1/2								
Tandon	TM100-1	Full	SSSD	48	180K				Belt	Full Pwr Req
Tandon	TM100-2	Full	DSDD	48	360K				Belt	Full Pwr Req
Tandon	TM100-4		DSQD							Full Pwr Req
TEAC	FD-55A	1/2	SSSD		180K			6MSEC		2 OK in PBox
TEAC	FD-55B	1/2	DSDD	48	360K	.4A	.3A	6MSEC	Drect	2 OK in PBox
TEAC	FD-55BV-06	1/2	DSDD	48	360K			6MSEC	Drect	No Hd Ld Sol
TEAC	FD-55E	1/2	SSQD	96	500K			3MSEC	Drect	
TEAC	FD-55F	1/2	DSQD	96	1M			3MSEC	Drect	
TEAC	FD-55GFV-AT	1/2	DSQD	96	1.2M					For the "AT"
TEC	FB503	1/2	SSSD	48	90K				Drect	2 OK in PBox
Toshiba	5401		DSDD							
Toshiba	ND-04D	1/2	DSDD	48	360K	.6A	.7A	5MSEC		2 OK in PBox
Toshiba	ND-040T	1/2	DSDD							
Y.E.Data	YD580	1/2								

THE LIST ON DISK DRIVES IS CERTAINLY GROWING AS EVIDENCED BY THIS LIST PROVIDED ANOTHER USERS GROUP.

MICKY SCHMITT
196 BROADWAY AVE.
LOWER BURRELL PA 15068

SEPTEMBER ISSUE

THE WEST PENN 99'ERS
% John F. Wilkforth
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