



SOONER 99ERS

This newsletter is the official publication of the SOONER 99ers
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DECEMBER, 1989

Season's greetings fellow club members (including clubs we exchange with, although you will receive this in January). I hope all is well with you. This time is traditionally set aside to reflect on what we have done and try to be generously tolerant of each other's faults. (Please!!!)

We are in the process of electing new officers for the coming year. If you are willing to help in any way, PLEASE, volunteer! We should be willing to serve and offering to help makes it easier. By the constitution, we need two candidates per office; President, Vice President, Secretary, Treasurer and Librarian. We can create more positions (such as editor of this newsletter). We (the nominating committee which is Garth Potts, Dick Farrar, and me) will have a slate for the next meeting after Dec. 9th. (not sure if it will be Dec. 23rd or Jan. 13th)

Opinions in this newsletter are those of the editor or authors. Articles, unless otherwise noted, are written by the editor. Advertising

In this newsletter, you will again have a collection of reprints from other publications. This is the only reliable way I know of to get this information out to our members. You will find news of a nearby TI Fair (Tucson is nearer than many other fairs have been). Also, since many of us STILL seem to not understand file conventions and so on, I have found an article which I believe does an excellent job in that area. Also, what I think is a MAJOR hardware enhancement, the Internal Board from Eric Zeno which is often called the Zeno Board. To simplify building this very useful modification, I have included more help and hints for this device. Also, since there have not been an abundance of articles from club members, I have included a few things I thought were interesting. Happy Holidays!!!! BP

related to the TI-99 or Myarc 9640 will be accepted on a 'space-available' basis from individuals or companies with no payment required.

BEYOND VAPORWARE
(or, it could be worse)

Barry Peterson, Sooner 99ers

In the mainframe computer world of 15 or 20 years ago, a late major product delivery with a few mangled features wasn't much of a problem. In fact, it was expected.

When you got version 1.0 of a mainframe software product, you knew it was unfinished, but they'd tell you about planned enhancements right from the start. This made no one happy but it was a fact of life you had to live with when you worked around the data processing environment.

Unlike their counterparts of yesterdays mainframe world, today's microcomputer users have little tolerance for such "facts of life". They expect to walk into a retail store or to mail/telephone order neat little packages that totally and immediately solve their problems for a few pennies. When these expectations are not met, users are quick to express their disappointment.

In the micro environment, users are accustomed to software that is finished and wonderful. When it isn't, and word gets around, it's like the kiss of death, like reading in the newspaper "don't go to this restaurant".

With previous announcements of software and hardware (anyone remember the Phoenix rumors? the IBM-compatible boards?) we have become accustomed to the term 'beta test'. Myarc has issued numerous versions of software for their Geneve 9640, some of it worked (sort of) on day one, some didn't.

What I am trying to build up to is this:

- Q: What is worse than not getting a product which has been announced but not delivered?
- A: Getting it! (unfinished)

It seems like some authors of both fairware and commercially developed software ship their product without fully checking it out.

I remember buying DATABASE_X years ago (this was after FRK but before Navarone, PR-Base, or TI-Base). It was, as I remember, written in Lubbock, TX, in the heart of TI country and had to be good, right? WRONG, silicon breath! It would not even run! It was protected, (not too well) but after a few hours I was able to correct their (XB) errors.

I do not criticize those who hold back release of a product for which I pay my hard-earned dollars, nor do I object to release of "buggy" beta-test versions. What I do expect is some form of communication! Let us know what is going on! When an author releases his work, he should have taken all reasonable precautions to ensure it will run correctly. We have received a disk with a bible trivia program which is fairware and extensive. This individual represents this efforts as complete and suggests I pay him.

After de-archiving the file, I started into the program and it looked good until I got a series of error messages. I then erased the program/files and went to other projects. BP

LADDER PROBLEM

by

HAROLD HOYT

This Month, a little computer fun! A Ladder Problem! In June of 1949, the senior physics class was restless! We were anxious to escape school and try our skills out on the world. Enos Drumm, our physics teacher, gave us two little problems for our last hour before our exams started. "It should be easy," he said, "After all, you have all had trigonometry." At the end of the hour he said, "This is an important lesson, to learn that there are a lot of problems not worth solving." In the 40 years since then, I have offered the problem to some heavy duty math people and have had one person, a high school math teacher that defected teaching to work at Mc Donnell-Douglas provide an implicit solution. My best solution was an equation $C^4 - 40C^3 + 400C^2 - 3200C + 32000 = 0$. This has 4 roots, one of which is correct. Most of the calculations were done before computers. No one got even close to a solution to either problem in the hour.

The problem is deceptively simple. We have an alley way. We don't know how wide the alleyway is. A thirty foot ladder is placed in the alleyway so that it's foot is in the left corner of the alleyway. A twenty foot ladder is placed so that it's foot is in the right corner of the alleyway. Where the two ladders cross is 10 feet to the ground. How wide is the alleyway?

The computer simulation of the problem makes an initial guess at the width of the alleyway. Then this initial guess is substituted in equations that describe the proportional triangles of the ladders as well as using the pythagorean theorem. Line 120 estimates F, the height of the left wall to the 20 foot ladder. Line 130 gets a first guess at G, the right wall 30 foot ladder intercept. The 10 foot height to the ladder crossing forms more triangles with bases A and B. These are calculated in line 170 and 180. A+B should equal X. The estimated value of X is X1 in line 190. Line 200 compares X with X1. If X is greater than X1, we move the wall out slightly and redo the calculations. When X1 is finally bigger than X, we reduce the amount that we move the wall each time and change the direction of movement. How do you know which way to move the wall? The easiest way is to try a direction, and if the answer goes in the wrong direction (diverges), change directions. Initially FLAG=1, so the test in line 200 $(X-X1)*FLAG > 0$ is really asking if X is greater than X1. When X1 is greater than X line 210 sets FLAG=-FLAG or FLAG=-1, reversing the test in line 200 the next time it is performed. The increment that the wall moves DX is changed to $-0.1*DX$ in line 220. The most efficient wall increment change would be to halve it each time the sign changes. For small problems, $0.1*DX$ allows for cleaner decimal arithmetic. The program could test the absolute value of $X-X1$ to a satisfactory accuracy for exit, but I chose to interact with the program, checking the result, and fixing the number of iterations in line 140. Line 160 prints the final result in feet and inches.

Problem #2 looks just as simple, but is even worse. I never got around to solving it. Maybe I should? I guess we were supposed to spend a half hour on each one?

LADDER PROBLEM

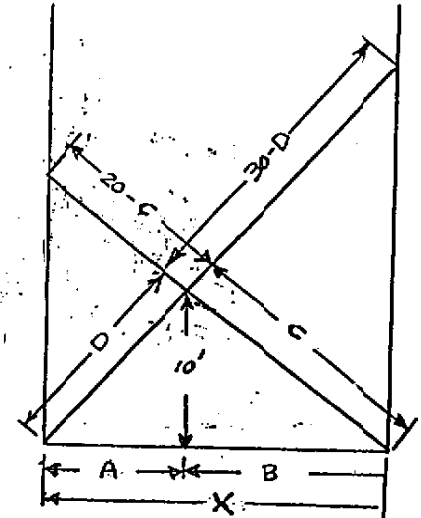
by

HAROLD HOYT

(CONTINUED)

```

1 REM SAVE DSK1.LADDER 1246
100 REM LADDER PROG 11/8/89
1071
110 FLAG=1 1210
120 DX=0.1 1180
130 X=12 1067
140 FOR I=1 TO 60 1110
150 F=SQR(400-X*X) 1216
160 G=SQR(900-I*I) 1222
170 B=10*I/F 1080
180 A=10*X/G 1080
190 X1=A+B 1139
200 IF (X-X1)*FLAG>0 THEN 230
0 1137
210 FLAG=-FLAG 1180
220 DX=-0.1*DX 1213
230 PRINT X;TAE(14);FLAG;DX
1094
240 X=X+DX 1203
250 NEXT I 1223
260 PRINT*INT(X);" FEET";(X-INT(X))*12;" INCHES" 1015
270 END 1139
    
```



Never underestimate
the power of a new idea.

EXTENDED BASIC GROM/ROM PARTS..... THIS INFO IS RIGHT OFF THE INVOICE I RECEIVED WITH THE PARTS FROM TI DEALER PARTS:

PART-NUMBER	DESCRIPTION	QUANTITY	UNIT-PRICE
1015960-1113	GROM, EXT. BASIC	1	3.60
1015960-1114	GROM, EXT. BASIC	1	3.60
1015960-1122	GROM, EXT. BASIC	1	3.60
1015960-3115	GROM, EXT. BASIC	1	3.60
1041016-0006	ROM, EXT. BASIC	1	6.80
1501392-1025	ROM, EXT. BASIC	1	4.60
TOTAL FOR PARTS AVAILABLE ONLY FROM T.I.----- 25.80			
ADDITIONAL CHIPS NEEDED 74LS00 AND 74LS74 TO BUILD XBASIC			
1015960-1204	EDITOR ASSEMBLER	1	3.50
NO ADDITIONAL CHIPS NEEDED FOR EDITOR ASSEMBLER			
T.I. WILL NOW TAKE CHARGE CARDS, AND CHARGE LOCAL SALES TAX PLUS 3.00 FOR S/H.			

I'M INCLUDING THIS UPDATED INFORMATION FOR THOSE WHO WANT TO BUILD XBASIC AND EDITOR ASSEMBLER ON THE NEW ZENO BOARD WITHOUT THE DESTRUCTION OF A CARTRIDGE. IT TAKES ABOUT 2-WEEKS TO RECEIVE THE PARTS. YOU MUST CALL DEALER PARTS AT: 806 741-2265 AND ASK FOR JOE SANCHEZ. I SOCKETED AT XBASIC CART. AND USED IT TO TEST ALL THE NEW CHIPS I RECEIVED.

INTERNAL BOARD (ZENO BOARD)

THE INTENT HERE IS TO HELP THOSE OF YOU IN THE WEST PENN 99'ERS AS WELL AS ANY IN THE USER GROUP COMMUNITY TO GET STARTED IN THE CONSTRUCTION AND INSTALLATION OF THE BOARD. I WILL TRY TO ADDRESS SOME OF THE PITFALLS AND GIVE SOME HINTS THAT MAY BE HELPFUL. I HOPE THAT YOU REALIZE THAT EVEN THOUGH ERIC ZENO HAS HAD THIS BOARD IN DESIGN FOR ABOUT A YEAR NOW, HE LIKE MOST OF US, IS DOING THIS FOR YOUR BENEFIT, AND WILL NOT QUIT OUR JOBS TO MAKE A LIVING ON TI USERS.

FIRST, THE BOARD DOES HAVE ONE ERROR IN THE TRACE LAYOUT, AND THAT IS THE DATA BUS ON THE CLOCK CHIP U12. MOST OF YOU WILL NEVER USE THIS CIRCUIT, AND THOSE OF YOU THAT DO, SHOULD BE ABLE TO INSTALL THE SIMPLE INVERSION OF THE EIGHT DATA LINES, I.E.: REVERSE THE PINS 15 THROUGH 22 UNDER THAT CHIP. I FEEL THAT THIS SHOULD STOP NO ONE FROM BUYING AND USING THE BOARD.

SECONDLY, THE TRACES ARE SMALL AND TIGHT IN AREAS THAT WILL GIVE A NOVICE FITS. DON'T BUILD IT YOURSELF IF IT LOOKS TO TIGHT FOR YOU AND YOUR EQUIPMENT.

THIRDLY, THE INITIAL INSTRUCTIONS ARE BRIEF, AND INADEQUATE FOR MOST OF YOU, THAT IS WHY I'M INCLUDING THESE TWO PAGES IN THE NEWSLETTER. YOU NEED HELP NOW! I HAVE BUILT TWO AND SINCE I DID THEM WITHOUT INSTRUCTIONS, I FEEL THAT YOU SHOULD DO MUCH BETTER WITH A LITTLE HELP.

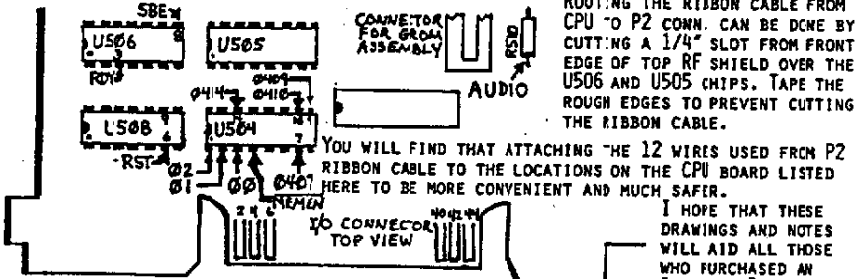
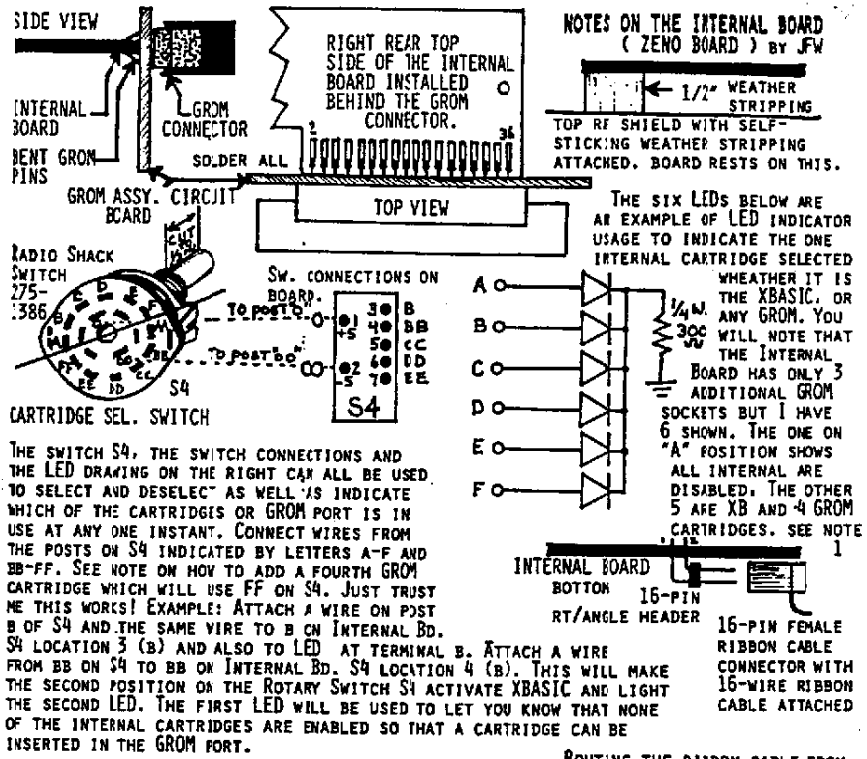
DECIDE WHAT PORTION YOU WISH TO BUILD FIRST. ATTEMPT AND GET ONE CIRCUIT WORKING AT A TIME. DO NOT FULLY SOCKET THE ENTIRE BOARD. SOCKET ONLY THE CIRCUIT YOU WILL NEED FIRST, SUCH AS THE 32K CIRCUIT. MAKE UP THE HARNESS FROM P2 TO THE CPU BOARD, SOLDER THE BOARD TO THE GROM CONNECTOR (SEE PAGE 6), AND BEFORE YOU PLUG IN P2 POWER UP THE CPU. IF ALL SEEMS WELL, THEN PLUG IN P2, THEN PLUG IN THE 32K MEMORY CHIP (FOR EXAMPLE). IF ALL IS STILL WELL, THEN RUN A MEMORY TEST BY LOADING A PROGRAM THAT USES EXPANSION MEMORY OR BY RUNNING A MEMORY DIAGNOSTIC. IF A STEP FAILS, DON'T GO ON, BUT GO BACK AND CHECK FOR A SHORT OR CHECK TO SEE IF P2 HARNESS IS WIRED CORRECTLY.

HERE IS ANOTHER AREA OF CONFUSION, THE P2 CHART ON P. 7 OF ERIC'S INSTRUCTIONS DOESN'T ADHERE TO THE PIN PROTOCOL FOR THE CONNECTOR, THEREFORE USE THE CHART AT THE RIGHT, AND ON THE ASSEMBLY DRAWING ON P. 9 OF INSTRUCTIONS CHANGE THE PIN NUMBERING SCHEME TO THAT SHOWN AT THE RIGHT ALSO. THIS WILL PROVIDE YOU WITH A MEANS TO ASSEMBLE A 16-WIRE HARNESS WITH A 16-PIN RIBBON CABLE CONNECTOR TO MATE WITH A 16-PIN DOUBLE ROW HEADER AND HAVE EVERYTHING COME OUT SO THAT THE WIRES ARE IN ORDER AND EASY TO COUNT AND MATCH CONVENTION.

THE SPEECH SYNTHESIZER SCHEMATIC HAS SEVERAL ERRORS INCLUDING CR1 IS SHOWN BACKWARDS, THE ANODE SHOULD GO TO GROUND, AUD P2-8 SHOULD READ P2-10 (UNTIL YOU MAKE CORRECTIONS TO P2 CONN. CHART) AND RDY P2-9 SHOULD READ P2-4 AGAIN UNTIL YOU CHANGE THE P2 CONN. CHART. CR1 AND C2 MUST BE INSTALLED WITH CORRECT POLARITY OBSERVED SO TO HELP, PUT A PLUS SIGN TO LEFT OF C2 ON ASSEMBLY DRWG. AND ALL \ominus REPRESENT THE CATHODE SIDE OF DIODES HERE.

P2 CONNECTOR (CORRECTED VERSION)

P2	TERM	USE	CPU CONN.
1	0507	32K	U504 p. 7
2	00	CR7/CA	U504 p. 3
3	RDY	SPCI	U506 p. 3
4	01	CR7/CA	U504 p. 2
5	SE	SPCI	U506 p. 8
6	02	CR7/CA	U504 p. 1
7	RST	SPCI	U508 p. 6
8	SPARE		
9	AUD	SPCI	R510 RIGHT
10	MEMEN-	CR7/CA	U504 p. 4
11	SPARE		
12	014	32K	U504 p. 14
13	SPARE		
14	0410	32K	U504 p. 10
15	SPARE		
16	0409	32K	U504 p. 9



- NOTE 1. TO ADD A 4TH GROM PIGGY-BACK IT (UP TO TWO HIGH) ON ANOTHER GROM PIN FOR PIN EXCEPT PIN 14. ATTACH A WIRE FROM PIN 14 OF THE 4TH GROM TO POST FF ON S4.
 - NOTE 2. DO NOT INSTALL LEDs WITHOUT A 200 OHM RESISTOR IN SERIES.
 - NOTE 3. THE SPEECH SYNTHESIZER HAS TWO ERRORS, BELOW U1 AUD P2-8 SHOULD BE P2-10 AND BELOW U2 RDY P2-9 SHOULD BE P2-4. (ERROR ON SCHEMATIC)
 - NOTE 4. MORE LATER
- JOHN F. WILLFORTH 10-27-89

JOYPAINT

TEXT -USES ARROW KEYS	A B C	<p>FILE</p> <p>LOAD - LOADS SAVED DRAWINGS</p> <p>SAVE - ALL REGIONS ON FRAME AREA ARE SAVED TO THE SCREEN</p> <p>PRINT - PRINTS AREA (CONFIGURE POSITION ON GRAPH)</p> <p>PROPERTY - (CATALOG) REGULAR ICONS SCREEN BY FIRE BUTTON</p> <p>FILES</p> <p>NEW - USE AFTER YOU'VE SAVED TO SELECT FILES</p> <p>QUIT - ENDS PROGRAM</p>	<p>EXTRAS</p> <p>PIPING - ZOOM FEATURE</p> <p>VIEW - SUMMARIES THE ICONS MENU TO VIEW TOOL PAGES</p> <p>PIP VERT - ACCESSES VERTICALLY</p> <p>PIP HORIZ - ACCESSES HORIZONTALLY</p> <p>ROTATE - 90° PER FIRE BUTTON PRESS</p> <p>INVERT - TESTING TO NEAREST MASS</p> <p>CLEAR - LARGE PORTIONS OF SCREEN</p> <p>CUT - TAKE & STORE A PORTION OF SCREEN</p> <p>PASTE - REPLACE & CUT REGION</p> <p>COPY - COPY SECTIONS IN MULTIPLE PLACES</p> <p>MOVE</p>	<p>UNDO</p> <p>GO BACK - THE LAST PORTION OF WORK YOU PERFORMED</p> <p>SCALE - SHOWS TOTAL IMAGE SCALED DOWN</p> <p>BRUSH - SELECT PATTERNS FOR BRUSH STROKES</p> <p>MAGNIFY - 2X SIZE OF IMAGE</p> <p>COLOR - SELECT VARIOUS COLOR COMPOS</p>
PENCIL - FINE LINES				
PAINT BRUSH - VARIOUS TEXTURE PATTERNS - SELECT PARTIAL SELECTION				
AIR BRUSH - USES SAME AS PAINT BRUSH				
LINE				
CIRCLE				
BOX				
FILL	FILL			
ERASE				
SCREEN DIRECTIONS				

LOADING INFO:
XB - AUTODRAW
PA SCREEN
(OFF 5)
"DIR" UNTIL

JOYPAINT PAL: *N/A - SELECT 11-33C - OLD TAKE 60-200 FROM*

*USABLE WITH OTHER FILES

ELECT NEW TEXTURES

LOAD/SAVE ANY - SAVES/LOADS ONLY SCREEN, NO PATTERNS

CONFIGURE - PRINTED INFO

EDIT PATTERN - SAME AS BIT PIXELS, ONLY FOR PATTERNS

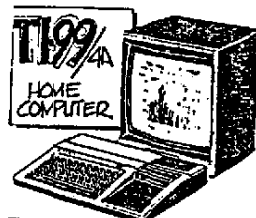
REDUCE - BY 1/2

by Garth Potts, Sooner 99ers



"... AND TO ACCESS THE PROGRAM'S HOT KEY, YOU JUST DEPRESS THESE ELEVEN KEYS SIMULTANEOUSLY. HERB OVER THERE HAS A KNACK FOR DOING THIS THAT I THINK YOU'LL ENJOY - HERB! GOT A MINUTE?"

Sooner 99ers
PO Box 61061
OK! ahoma City, OK 73146



TI 99/4A
HOME COMPUTER

TAKE THIS COPPIN' OUT OF THE CLOSET AND JOIN THE SCOOTERS GROUP!

UNLESS THE TORMENTOUS POTENTIAL OF THE DISK ISN'T DOING YOU IN BETTER A WAY!

USE THE TI 99/4A PROGRAM TO:

- WORD PROCESSING & GRAMMAR GAMES
- SPREADSHEET & MUSIC SPELLS
- PROGRAMMING IN 6 LANGUAGES
- CLIP ARTISTS BY MENU *1/2 ANNUAL PER & SEPARATE LIBRARY *FOR SALE * TUTORIALS

CONTACT: GARTH POTTS (L-8 RES, RT 13, BOX 61061, OK 73146)