

# HUG

HOUSTON USERS' GROUP

*Dec 85*

PROP. of H.U.G.  
SET "A"  
c/o B. Lumpkin  
Houston Texas  
713-469-5089

**MEETING SCHEDULE**  
FIRST SUNDAY OF EVERY MONTH  
2nd SUNDAY IF 1st SUNDAY  
IS ON A HOLIDAY WEEKEND

HUG TIBBS 713 475-8909  
24 HOUR BULLETIN BOARD

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**THE NEXT MEETING IS**

**SUNDAY, DECEMBER 8, 1985 2:00 PM**

**ST. JOHN'S SCHOOL - 2401 CLAIRMONT**

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## PRESIDENT'S REPORT

This is my final report as President of HUG and I would like to express my appreciation to the officers that supported me throughout the year, and to the many members who have always been there to give me encouragement. As most of you know, this year has been far from what I expected due to one the lack of support on one board member. I knew that past administrations had problems, but I felt ours would be different. My regret was that the membership had to be involved in this.

We did accomplish quite a bit this year. We have adopted our Articles of Association to give us guidelines to go by. This will help to prevent any problems such as the one we encountered this year. Also, since the Board of Directors will be making the monthly decisions, our monthly gatherings can be entirely devoted to learning about our computer. Too many members had become disgusted with having to "waste time" with lengthy business sessions.

One of our greatest accomplishments this year has been in the Library. Both Bill Rister and Larry Pipkin did a super job and our library has grown to around 700 programs. These are very good programs, not just the "Hangman" type games. We also have a back-up of the library that is kept at the President's house, in case of a disaster at the Librarian's house. (not that we expect one, just insurance).

We have also had health problems among the officers, but each newsletter got out on time and the bulletin board kept running.

We presented some very good programs this year and my thanks to all who came forward and helped us out. Every program proved to be interesting and educational. Sometimes the members do not realize how difficult it is to plan something every month.

Looking toward next year, I foresee good things for HUG. The new Myarc computer should start showing up and should renew some interest in our computer. We hope one of these will be available for a demo at the December meeting. As of the writing of this article, all we know is that the new computer was shown at the Chicago Faire.

To the new officers, I wish you well. I encourage you to support our new President and the new Board, and if you feel you cannot support the majority, then step down and let someone else serve. There is no dishonor in admitting you cannot support the majority, only in continuing to not support the majority and saying that you are right and everyone else is wrong. Support your fellow officers and offer only constructive criticism... don't call him after a meeting and point out every little

mistake he makes. Remember we all make mistakes. Serve HUG well, and my thanks for each candidate for stepping forward.

To the members, all I can say is support the officers. They spend many hours working for you, so when they do something you like, tell them so. Your praise is the only pay we get. Offer your support and volunteer when needed. The officers cannot do it alone.

It has been quite an experience serving as President, some good, some bad. Again, thanks for your support.

Bill W. Knecht

## ANNUAL MEETING NOTICE

The Annual Meeting of Houston Users' Group will be held on Sunday, December 8, 1985 at St. John's School, for the purpose of electing officers and other business as prescribed in our Articles of Association. The business meeting will start at approximately 2:45 p.m., following a short educational program.

The meeting will adjourn to a informal "social hour" with refreshments being furnished by M & S Computer Systems, Tom Jay and HUG. Individuals are not required to bring refreshments this year.

## EDITORS NOTE

With the Christmas Holidays upon us I take this time to write my last column of the year. It has been a lot of fun putting the newsletter together for HUG this year. I must apologize for the tardiness of this issue. It was unfortunately delayed to to my recent work load. Still I hope you have enjoyed the issues that I have produced for you this year. I know that I have not covered all of the things that I have wanted to nor have I covered all of the subjects that have been requested. Never the less I hope that each and every club member has gotten something out of the issues that have been under my control.

I wish to take this time to thank all of the members that have helped me in the production of the newsletter. Your help has been much appreciated.

As with all volunteer jobs this one too is coming to a close. I wish you all a Merry Christmas and happy New Year. May God keep all of you well and bless you all.

Rogers G. Mills Jr.

Editor

## TI-WRITER SPECIAL CHARACTER MODES

The following is a list of the commands used for special characters modes on Epson and Gemini printers. To access this mode, you first press CTRL U then the selection you want, then CTRL U again. In other words, if you want compressed print you would use the following: CTRL U, SHIFT O, CTRL U, ENTER. Here are the listings:

ASCII	FUNCTION	PRESS KEY
14	Double Width on	Shift N
20	Double Width off	Shift T
15	Compressed Print on	Shift O
18	Compressed Print off	Shift R
27	Escape	FCTN R
27 52	Italics on	FCTN R;4
27 53	Italics off	FCTN R;5
27 45	Underline on	FCTN R;-;Shift A
27 45	Underline off	FCTN R;-;Shift 2

To get some special functions it is necessary to use the Special Character Mode to embed the Escape code, then leave the Special Character Mode to enter the second character. The Control characters show on the screen, but do not print out on the printer. There should not be a space between the Escape code and the second Control character.

		out of	in
		SC mode	SC mode
27 83	Superscript on	FCTN R;Shift S;Shift 2	
27 83	Subscript on	FCTN R;Shift S;Shift A	
27 84	Reset Super & Subscript	FCTN R;Shift I	
27 69	Emphasized Print on	FCTN R;Shift E	
27 70	Emphasized Print off	FCTN R;Shift F	
27 71	Double Strike on	FCTN R;Shift G	
27 72	Double Strike off	FCTN R;Shift H	
27 64	Resets ALL special modes to power up, including top of form	FCTN R;Shift 2	

List compiled by Jane McAshan several years ago.  
 Edited by Tim Kirk (1985 for TI99/4A)

## HUG LIBRARY CATALOG ADDENDUM

November 1985

**3047 WORLD MAP W/FILES.XB**

Figures the distance in air miles from one city to another city. File included gives you the option of adding extra cities. 56 sectors

**3048 CHEMISTRY SET.XB**

Excellent programming by HUG member John Sewell which teaches many of the fundamentals of chemistry. Subjects covered are elementary chemistry, molecules, distill, gas-laws, gas-notion, titration & conversions. 238 sectors

**4128 DISK MASTER.XB**

Disk manager program released as "Freeware" by Todd Kaplan. Has many convenient features needed on a disk manager program. 91 sectors

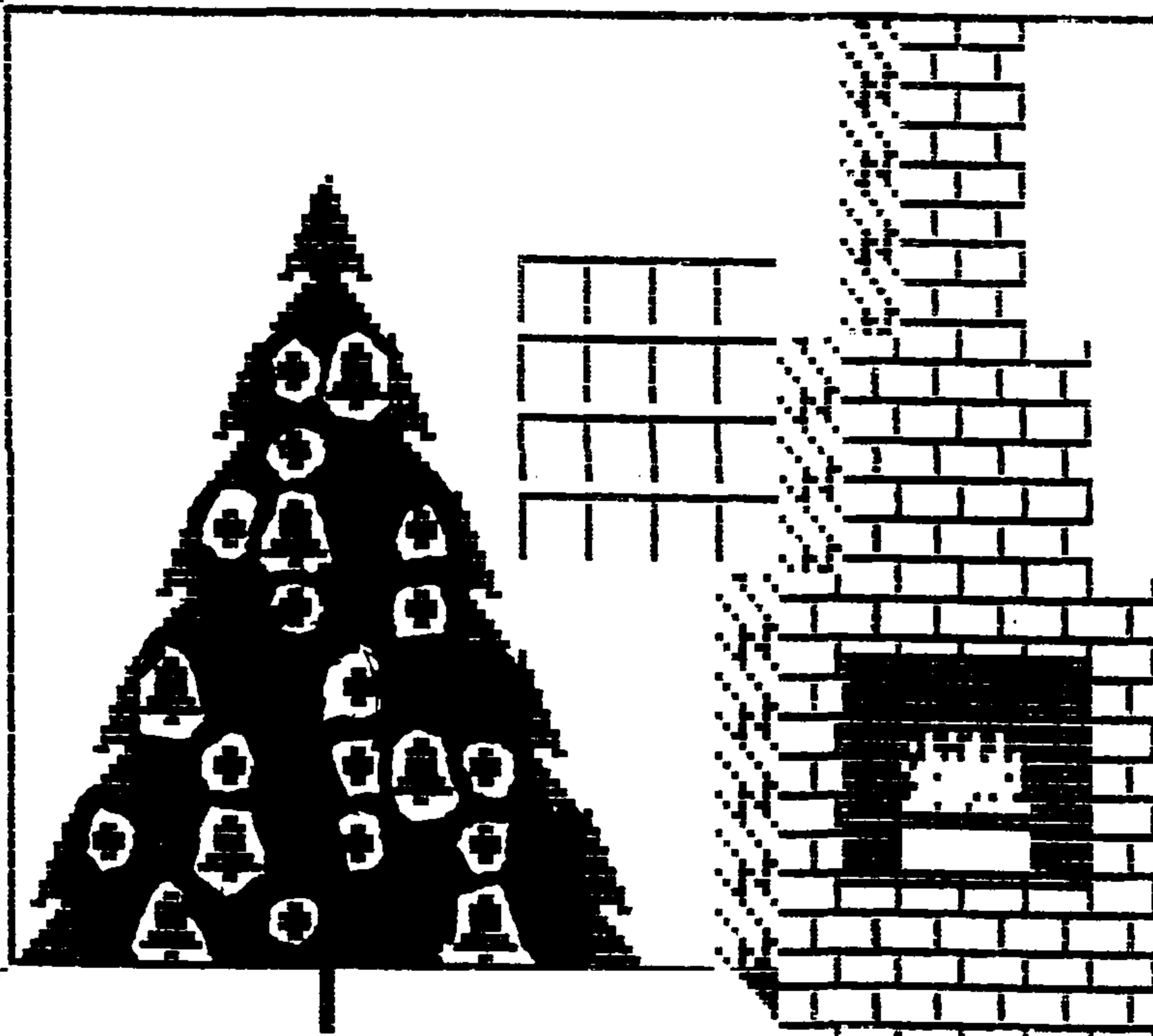
**5224 ISLANDS IN THE STREAM.XB**

Excellent version of Kenny Rogers & Dolly Parton's hit song written by Bill Knecht. Super graphics and words. 32 sectors

**5225 STAR TREK III.XB**

Unusual graphics of Kirk & Spock set to music from movie of same name. Excellent programming job by Ken Gilliland. 78 sectors

H A P P Y



H O L I D A Y S

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100 CALL CLEAR
110 RANDOMIZE
120 REM *****
130 REM : HOLIDAY :
140 REM : :
150 REM : GREETINGS :
160 REM *****
170 REM COPYRIGHT 1984
180 REM NWF 99ER LINES
190 REM BY THE EDITOR
200 REM TI-BASIC
210 PRINT TAB(5):"HOLIDAY GREETINGS": : : :
220 PRINT TAB(7):"COPYRIGHT 1984": : : :
230 FOR DELAY=1 TO 100
240 NEXT DELAY
250 CALL CLEAR
260 CALL SCREEN(2)
270 CALL CHAR(97,"8040201008040201")
280 CALL CHAR(100,"00000000000000FF")
290 CALL CHAR(98,"0102040810204080")
300 CALL CHAR(99,"00")
310 CALL CHAR(91,"FF01010101010101")
320 CALL CHAR(101,"FF")
330 CALL CHAR(92,"FF80808080808080")
340 CALL CHAR(44,"0101FF080808FF01")
350 CALL CHAR(48,"0001030307070F0F")
360 CALL CHAR(45,"3211884422139A56")
370 CALL CHAR(104,"FF808080808080")
380 CALL CHAR(49,"1F1F33070F1F3F7F")
390 CALL CHAR(112,"0000183C3C18")
400 CALL CHAR(50,"8080C0C0E0E0F0F0")
410 CALL CHAR(136,"3F1F0F070301")
420 CALL CHAR(120,"00183C3C3C7EFF18")
430 CALL CHAR(51,"F8F8CCE0F0F8FCFE")
440 CALL CHAR(56,"0000183C3C18")
450 CALL CHAR(37,"8737250105015380")
460 CALL CHAR(121,"00")
470 CALL CHAR(36,"EDAFES4088C08008")
480 CALL CHAR(102,"8080808080808080")
490 CALL CHAR(46,"FFFF00000000FFFF")
500 CALL CHAR(47,"FFFFFFFFFFFFFFFF")
510 CALL CHAR(103,"0101010101010101")
520 PRINT "cccccccccccccccccccccccccccc"
530 PRINT "aaaaaaaaaaaaaaaaaaaaaaaaaaaa"
540 PRINT "ccccccccHcAcFcPcYccccccccbc"
550 PRINT "ccccccccccccccccccccccccccbc"
560 PRINT "cccacccccccccccccccccccccccc"
570 PRINT "ccccadddddddcccccccccccccccc"
580 PRINT "ccccgcccccccccccccc-,cfcccc"
590 PRINT "ccccgcccccccccccccc-,cfcccc"
600 PRINT "ccccgcccc02cccccccc-,cfcccc"
610 PRINT "ccccgcccc13chhhh-,cfcccc"
620 PRINT "ccccgcccc0px2chhhh-,cfcccc"
630 PRINT "ccccgcccc1py3chhhh-,cfcccc"
640 PRINT "ccccccc08xyp2chhhh-,cfcccc"

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650 PRINT "ccccgccccypv83ccc-,,,,,,fcccc"
660 PRINT "ccccgccccvpyy2cc-,////,fcccc"
670 PRINT "ccccgccccypx83cc-,/92/,fcccc"
680 PRINT "ccccgccccy8ypy2c-,/../,fcccc"
690 PRINT "ccccgccccy8yxy3c-,,,,,,fcccc"
700 PRINT "cccccccccccccccccccccccccccc"
710 PRINT "cccccccccccccccccccccccccccc"
720 PRINT "cccccccccccccccccccccccccccc"
730 PRINT "cccccccccccccccccccccccccccc"
740 PRINT "cccccccccccccccccccccccccccc"
750 CALL HCHAR(19,19,136)
760 CALL SCREEN(11)
770 CALL COLOR(1,2,11)
780 CALL COLOR(10,2,8)
790 CALL COLOR(4,5,13)
800 CALL COLOR(11,9,13)
810 CALL COLOR(12,8,13)
820 CALL COLOR(3,13,11)
830 CALL COLOR(2,2,7)
840 CALL COLOR(14,7,11)
850 DATA 250,494,250,494,500,494,250,494,250,494,500,494,
250,494,250,587,250,392,250,440
860 DATA 1000,494,250,523,250,523
870 DATA 250,523,250,523,250,523,250,494,250,494,250,494
880 DATA 250,494,250,440,250,440,250,494,500,440,500,587,250,4
890 DATA 250,494,250,494,250,494,250,494,500,494,250,494
900 DATA 250,587,250,392,250,440,1000,494,250,523,250,523,250,
910 DATA 250,523,250,523,250,494,250,494,250,494,250,587
920 DATA 250,587,250,523,-400,440,1000,392
930 RESTORE
940 FOR T=1 TO 49
950 READ A,B
960 CALL COLOR(12,(INT(RND*12)+3),13)
970 CALL SOUND(A*1.3,B,4)
980 NEXT T
990 RESTORE
1000 FOR T=1 TO 49
1010 READ A,B
1020 CALL SOUND(A*1.3,B,2,B/2,6)
1030 CALL COLOR(4,(INT(RND*12)+3),13)
1040 NEXT T
1050 RESTORE
1060 FOR T=1 TO 49
1070 READ A,B
1080 CALL SOUND(A*1.3,B,2,B*2,4,B/2,6)
1090 CALL COLOR(12,(INT(RND*12)+3),13)
1100 NEXT T
1110 RESTORE
1120 FOR T=1 TO 49
1130 READ A,B
1140 CALL SOUND(A*1.3,B,2,B+5,4,B/2,6)
1150 CALL COLOR(11,(INT(RND*12)+3),13)
1160 NEXT T
1170 FOR DELAY=1 TO 200
1180 NEXT DELAY

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```

1190 RESTORE 1280
1200 FOR X=1 TO 68
1210 READ A,T,F,S
1220 CALL SOUND(200*T,F,1,S,1)
1225 CALL COLOR(A,INT(RND*12)+3),13)
1230 NEXT X
1240 CALL KEY(3,KY,ST)
1250 IF ST=0 THEN 1240
1260 IF KY<>81 THEN 1190
1270 END
1280 DATA 4,3,523,440,11,1,466,392
1290 DATA 12,2,440,349,4,2,392,330
1300 DATA 11,2,349,294,12,2,392,330
1310 DATA 4,2,440,349,11,2,349,262
1320 DATA 12,1,392,330,4,1,440,349
1330 DATA 11,1,466,392,12,1,392,330
1340 DATA 4,3,440,349,11,1,392,294
1350 DATA 12,2,349,262,4,2,330,262
1360 DATA 11,4,349,262,12,3,523,440
1370 DATA 4,1,466,392,11,2,440,349
1380 DATA 12,2,392,330,4,2,349,294
1390 DATA 11,2,392,330,12,2,440,349
1400 DATA 4,2,349,262,11,1,392,330
1410 DATA 12,1,440,349,4,1,466,392
1420 DATA 11,1,392,330,12,3,440,349
1430 DATA 4,1,392,294,11,2,349,262
1440 DATA 12,2,330,262,4,4,349,262
1450 DATA 11,3,392,330,12,1,440,349
1460 DATA 4,2,466,392,11,2,392,330
1470 DATA 12,3,440,349,4,1,466,392
1480 DATA 11,2,523,440,12,2,392,392
1490 DATA 4,1,440,349,11,1,494,392
1500 DATA 12,2,523,392,4,1,587,392
1510 DATA 11,1,659,392,12,2,698,440
1520 DATA 4,2,659,392,11,2,587,349
1530 DATA 12,4,523,330,4,2,523,440
1540 DATA 11,1,466,392,12,2,440,349
1550 DATA 4,2,392,330,11,2,349,294
1560 DATA 12,2,392,330,4,2,440,349
1570 DATA 11,2,349,262,12,1,587,349
1580 DATA 4,1,587,349,11,1,587,349
1590 DATA 12,1,587,349,4,3,523,330
1600 DATA 11,1,466,392,12,2,440,349
1610 DATA 4,2,392,330,11,4,349,294

```

## HOLIDAY GREETINGS

The program listing that you see here is a computer Christmas card. I originally wrote the program for the graphics last year and added some music to it from other sources with my own modifications to the music to allow for a smooth sound in both basic and extended basic. The timing of the music is hampered a bit by the timing of the graphic changes while the program runs. The ornaments are timed along with the music in the data statements. The following explanation will help you understand the method I used to to accomplish the blinking ornaments and the graphics and still run in basic and extended basic.

The program first appeared in the North West Florida 99ER Lines last year of which I was the Editor at the time.

### PROGRAM EXPLANATION

Line 100 clears the screen

Line 110 sets the random number generator into motion.

Lines 120 thru 200 are reminder statements as to the name of the program and its origin.

Lines 210 and 220 are the first screen produced with lines 230 and 240 the delay to hold the screen visible for a brief few moments.

Line 250 clears the screen again and line 260 calls for a black screen while the next screens develops.

Lines 270 thru 510 defines all of the characters to be used in the Christmas card.

Lines 540 thru 750 puts the characters on the screen but not in a visible fashion.

Lines 760 thru 840 adds the color to the characters to allow you to see the picture.

Lines 850 thru 920 are the data statements for the first tune to be played and the colors of the ornaments to allow the blinking of the tree ornaments while the music plays.

Lines 930 thru 1180 are the call sound and call color statements of the first tune.

Lines 1280 thru 1610 are the data statements of the second tune along with the data for the color changes.

Lines 1190 thru 1230 are the call color and call sound statements of the second tune.

P>oke'in Around

\*\*\*\*\*

If you have any new Pokes leave them in a Goodbye MSG to Steve

\*\*\*\*\*

Changes the flash rate of cursor

This could be very handy for program that uses a lot of editing because you can see what is under the cursor. CALL LOAD(-31748,N) N=0-255 1 is then normal setting.

\*\*\*\*\*

Brings up the title screen

This works with either while in X-Basic or in Basic with the ED/ASSEM plugged in. CALL PEEK(2,A,B) then CALL LOAD(-31904,A,B)

\*\*\*\*\*

Looks for PGM called LOAD

While in X-Basic this poke restart it and look for the program called LOAD. CALL LOAD(-31962,255) CALL LOAD(-31962,255)

\*\*\*\*\*

CALL CLEAR

Sot this from Marc Schaidt SysOp of the Appleton WI TIBBS. This gives you a clear screen for a split second. CALL LOAD(-32700,0)

\*\*\*\*\*

VDP POKES

Plug in the Mini Memory or ED/ASSM and CALL POKEV(-32272,0,"",-30945,0) This will do 40 col for a splitsecond. CALL POKEV(-32280,0) and CALL POKEV(-32766,0) for other VDP display. Color-Block and Bit-map. CALL POKEV(-32768,0) to reset.

\*\*\*\*\*

Sound Registers

CALL LOAD(-31740,A,B) A B=Values you enter change then around to get different sounds and they stay on until another sound is made normally (an error, input beep, call sound, etc.) call sound, etc.)

\*\*\*\*\*

Speech Synth. Check

CALL LOAD(-38672,A) Then type PRINT A if A=96 then the speech synth. is plug in if A=0 then it's not. This can really useful if you don't want those without the speech synth. to have to wait through all the CALL SAY statements. YOU CAN THANK GEORGE FOR THIS ONE!

\*\*\*\*\*

Cass. PGM won't load if PE-Box is on

----- Discovered that when you upgrade to disk that some of your programs won't load give you a "MEMORY FULL" error? That's because your DOS uses about 2K of RAM. You can disable the DOS, and regain the lost 2K by entering: CALL LOAD(-31888,63,255) and then NEW. From X-BASIC you must do CALL INIT, but you can also restore DOS by entering: DOS by entering: CALL LOAD(-31888,55,215) and then NEW. You can call this from BASIC when the ED/ASSM or MINI MEMORY mods are plugged in, but you can only restore disk by doing a BYE.

\*\*\*\*\*

"OOP's"

Here's something interesting that all X-BASIC users will like. Have you ever been typing in a program and hit "FCTN +" insted of "SHIFT +" it's an easy mistake to make but imposible to recover from. "oops" CALL LOAD(-31806,16) This will #DISABLE# the "Function QUIT" key!! No more lost data while programing in EXTENDED BASIC! And this will also get you in the habit of using "BYE" as an exit from X-BASIC which is a much better for your programs anyway.

\*\*\*\*\*

More CALL LOAD(-31806,X)

You can disable the QUIT key, SPRITE You can disable the QUIT key, SPRITE motion and SOUND or combinations. X=128 All are disable X=64 SPRITES off X=32 SOUND disable (causes Lock ups) X=16 QUIT key off X=48 SOUND and QUIT off X=80 SPRITES and QUIT off X=96 SPRITES and SOUND off X=0 Re-enables all functions

While SPRITES are disabled, other SPRITES functions still work. CALL LOAD(-31878,0) also stops sprites. Loading the highest numbered sprite in this address restarts them or start them selectively by number.

\*\*\*\*\*

Pokes At Protection

To Unprotect extended basic prog on disk. CALL INIT CALL LOAD(-32699,0)

TO PUT IT BACK: CALL LOAD(-31931,128)

To Unprotect extended basic prog on cassette. CALL INIT CALL LOAD(-31931,128)

\*\*\*\*\*

TO HEAR YOUR PROGRAM TYPE IN:

LIST "SPEECH":100-200 OR whatever line numbers you wish to hear! Only thing is once you start it you cannot abort it except by turning off computer, or waiting for it to finish talking its grow chips silly!

\*\*\*\*\*

These LOADS apply to XB WITH EXPMEM only, except where noted, and MAY not MAY work for the E/A module, and/or MINI/MEM.

\*\*CALL LOAD(-31806,16)..DISABLES FCTN QUIT KEY

\*\*CALL LOAD(-31806,64)..KILLS SPRITES

\*\*CALL LOAD(-31806,32)..DISABLES AUTO SOUND PROCESSING

\*\*CALL LOAD(-31806,128).DISABLES FCTN QUIT, SOUND AND SPRITES

\*\*CALL LOAD(-31806,0)...RESTORE ANY OR ALL OF THE ABOVE

\*\*CALL PEEK(-31974,A,B).in the command mode. Then..PRINT A6+B-1776. This is roughly the equivalent to the SIZE command in XB. The 1776 figure is the approx. overhead in TI BASIC. XB has slightly more. If you have ever had a very,very long program and are unable to run it with your disk drives, this is for you. It is much easier with MINI-MEM. and that explanation follows.

\*\*CALL LOAD(-31888,63,255)::NEW..frees memory/disables disks.

\*\*CALL LOAD(-31888,55,215)..then, RUN, NEW or EDIT to restore. This is equivalent to CALL FILES(0) in XB (which of course you can't do.) and has the effect of completely disabling the disk drives, and freeing up the memory allocated to the disks. Any calls to the drives, once the LOAD has been invoked, will FREEZE THE COMPUTER, and you will have to turn it off to restore. Invoking this command prior to loading your long program via cassette, will negate your having to turn your PES on and off again.

#### MINI-MEM....

With the mini-mem installed, its even neater, and you can save your very long programs on disk and use them again, WITHOUT having to turn your PES on and off. Here's how.

1. use the call load command above.
2. load your long program via cassette. Then save EXPMEM2.
3. Restore your disk by typing CALL FILES(1).....NEW....then OLD EXPMEM2.
4. Save to DSK1. under whatever name you desire.
5. When you wish to use the long program, merely CALL FILES(1). OLD DSK1.PROGRAM, SAVE EXPMEM2, CALL LOAD(-31888,63,255), NEW, OLD EXPMEM2.
6. Run your program.
7. If you still get a MEMORY FULL message at that point....sorry, I can't offer any more than that. To restore the DRIVES without turning the PES off and on, use the same location with number 55. CALL LOAD(-31888,55,215)::NEW or RUN or EDIT

\*\*CALL PEEK(-39672,A)..Checks for speech synthesizer. If attached, returns a value of 255 if speech synthesizer is attached, and 127 if speech synthesizer is not attached.

I have received info from other sources that, depending on the system, the return will be 96 if attached and 0 if not attached. Fool around with this location to determine what value is returned on YOUR system.

\*\*CALL LOAD(-32630,128)..returns you to the title screen (not recognizable due to graphics not restored, but its there.

\*\*CALL LOAD(-31961,149)::END or STOP..will reset you XBASIC. search DSK1 for a program called LOAD and RUN that

program if it is found.

\*\*CALL LOAD(-31961,51)::END..resets to the title screen, with full graphics implemented.

\*\*CALL LOAD(-32572,1)..produces a "MUSHIE" keyboard.

\*\*CALL LOAD(-32572,128)..disables the keyboard.

\*\*CALL LOAD(-31878,X)..where X is the highest number of sprites you are using. Useful for halting SPPITES or, if X=0 then brings all sprites to a grinding halt.

\*\*CALL LOAD(-31806,X)..same as above, but reputed to work a little faster to accomplish the same task.

This next one takes some experimentation, and its use, is again, dubious.

\*\*CALL LOAD(-31745,0)..produces a frozen screen which, after a few seconds, blanks entirely. Restore by pressing (FCTN -).

\*\*32443,-32187,-31931,-32699 are located in SCRATCH-PAD ram, and are self-duplicating. Whatever is found to be at >8100-81FF will also be found at >8200-82FF etc. Therefore loading EITHER of these locations with specific value, will accomplish the following:

i.e. CALL LOAD(-32699,X)..(within body of program where X = 2..activates ON WARNING NEXT command  
4..activates ON WARNING STOP command. 16.activates TRACE function. More.(A=Abort, any other key to cont.)

64.activates ON BREAK NEXT command.

\*\*CALL LOAD(-31866,33,0)..then SIZE..makes it seem as if you have just gotten something for nothing, but don't believe it. Try other values, and prove it to yourself.

\*\*CALL LOAD(-31868,0)..(within the body of program)..If the program is halted with a FCTN 4 (break) listing the program will be impossible, as will RUN the program again. You may, however CGN to resume the program.

\*\*CALL LOAD(-31748,1)..normal cursor speed, and normal duration for WARNING tones and INPUT beeps. Loading with a larger number makes the cursor blink faster, and increases the length of the tones. Try value 2 or 18 for fairly good results. Using 0 (zero) halt cursor and disables tones.

MANY THANKS TO ALL THE VARIOUS INDIVIDUALS WHO HAVE MADE THIS FILE POSSIBLE. THE SOURCES ARE FROM VARIOUS BBS, CIS, AND INVOLVED MUCH WORK ON THE PART OF THOSE WHO ASSEMBLED THE INFO. I JUST RELAY IT ON TO YOU.



## FORTH TO YOU TOO! - SESSION 3

BY  
LUTZ WINKLER

As mentioned there is an elegant way to autoboot whatever you want your system disk to do, but before we can proceed with that we'll have to consider the following: Since FORTH is a disk-based system it occupies memory which otherwise would be available for programming. That - in my opinion - is the reason TI provided many of the utilities as LOAD OPTIONS. Look at the menu and also Appendix F. Some of the options, i. e. the editor, are essential, others are rarely needed. For instance, if you are not programming in code there is no need to clutter up the memory with -CODE and -ASSEMBLER. Similarly, if you aren't going to operate with graphics then there is no need for -VARIABLES etc. It is not very likely that you will run out of memory while still in the learning process but why boot unnecessary stuff? I consider only -DUMP, -COPY and -PRINT along with the editor as essential. To show you how fast memory is occupied even with your extra 32K, do this (assuming you are in FORTH): enter: FREE SP HERE - . : (colon FREE SP HERE minus dot semicolon) Now enter FREE. You should get an answer of about 14140 (9740 if you opted for the 64-column editor). If you want to see how fast memory shrinks with each LOAD OPTION boot a few more, but enter FREE in between them. (If you are convinced enter CULD.) Here is what I autoboot and why:

1. -PRINT so I can list the screens I am working on
2. -COPY so I can copy disks screens
3. -DUMP which allows me to look at the parameter stack
4. -BSAVE a must to enable the quick autoboot

If you want to use a printer there is one more item to check. Look at SCREEN 72 in the manual or - for practice - call it up from your disk. Look at where it says "KS232.BA=9600". This routine is written for a serial printer operating at 9600 BAUD. If yours is on the parallel port (PIO) you must modify #72 as shown below and FLUSH it to your system disk.

## SCR# 72

```

0 ( ALTERNATE I/O SUPPORT FOR PIO PRNTR 04/27/84 LW )
1 0 CULD INDEX BASE->R DECIMAL 68 R->BASE CULD STAT
2 0 0 0 FILE >PIO BASE->R HEX
3 : SWCH >PIO PABS 10 + DUP PAB-ADDR ! 1- PAB-VBUF !
4 SET-PAB OPTPT F-D" PIO" OPN 3 !
5 PAB-ADDR VSBW 1 PAB-ADDR 5 + VSBW PAB-ADDR ALTDUT !
6 : UNSWCH 0 ALTDUT ! CLSE :
7 : ?ASCII ( BLOCK# --- FLAG )
8 BLOCK 0 SWAP DUP 400 + SWAP
9 DO 1 0 20 > + 1 0 DUP 20 < SWAP /F > OR
10 IF DRUP 0 LEAVE ENDIF LOOP ;
11 : ?ASCII 0 SWAP SWCH 3 / 3 & DUP 3 + SWAP
12 DO 1 ?ASCII IF 1+ 1 LIST OR ENDIF LOOP
13 -DUP IF 3 SWAP - 14 & 0 DO OR LOOP
14 OF MESSAGE 00 EMIT ENDIF UNSWCH :
15 R->BASE -->

```

To make sure that everything is ok with your new version of #72, enter

-PRINT

Turn on your printer and enter

SWCH ." THIS IS A TEST" CR UNSWCH Make sure there is a space between ." (DOT-QUOTE) and THIS. If your printer responds with THIS IS A TEST, pat yourself on the back and play with SWCH ." xxxxxx" UNSWCH some more. If not, you will have to start over again, and this time pay close attention, particularly to spaces!

Before we proceed with the actual set-up for your autoboot take a quick look at any SCREEN between 8 and 19, no not in the manual, on your display (remember no EDIT). Not much there that's legible, but believe it or not on those few SCREENS resides every FORTH word that is identified in the glossary as a RESIDENT word. Only they are saved in a binary form. We will do the same with the LOAD OPTIONS you decide upon by the use of BSAVE. So let's go. First, start off with CULD, then boot your options by entering the appropriate words (-PRINT, etc) and as the final one -BSAVE. Find the apostrophy key (FUNC1 U - that's U not (EKU!). This is also a FORTH word pronounced ILK (page 3, glossary). Now enter:

' TASK 22 BSAVE .

(tick TASK 22 BSAVE dot)

Here is what's happening: We are saving in binary form all that has been added to the dictionary (by booting the LOAD OPTIONS) starting at screen 22. We can afford to wipe out 22 and some of the following screens because they contain the 64 column editor which you have either booted already (so it's in the autoboot dictionary) or you aren't going to use it. The final dot will print on your display the first screen after the BSAVE is done. All other LOAD OPTIONS remain intact and can be booted when needed.

Now for the finishing touches. Enter

EMPTY-BUFFERS 3 EDIT

and carefully erase all but lines 0,1,2,13 15. On line 0 take out the parenthesis around 84 LOAD, and change 20 LOAD to read 22 BLOAD. You might want to replace the word BUILDING on line 0 with some other phrase which would let you know that you are using your new system-disk. On line 5 put: 0 DISK\_LD ! and depending on how many drives you have and whether they are single or double sided enter ONE of the following:

(for one single-sided drive skip this)

90 DISK\_SIZE ! 180 DISK\_H1 ! ( for 2 single sided drives)

180 DISK\_SIZE ! 180 DISK\_H1 ! (for 1 double sided drive)

180 DISK\_SIZE ! 360 DISK\_H1 ! (for 2 double sided drives)

Note that these words use the underline, not the hyphen. (If you have double DENSITY drives it is not quite that easy, you have to make several modifications to screens 33 and 40 as well as define a new word to install a proper disk header.)

Enjoy.

End Session 3

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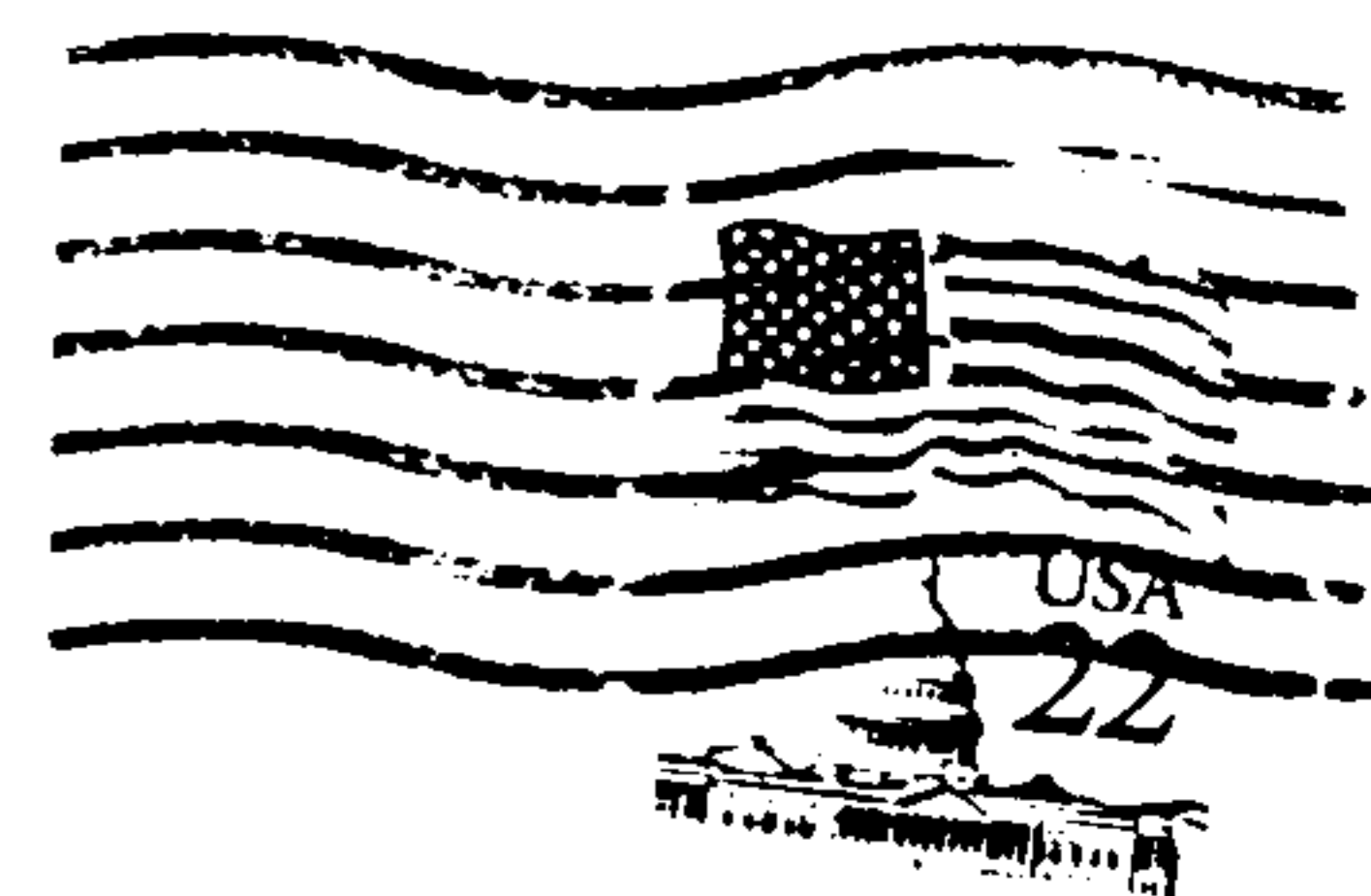
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