



ANNUAL DUES SCHEDULE: \$15/FAMILY, \$12/INDIVIDUAL, OR \$7/STUDENT,  
PLUS ONE TIME FEE OF \$15 FOR THE EXCHANGE.  
OUT-OF-TOWN ONLY (NEWSLETTER ONLY): \$6/YEAR.

\*MEMBERS!\* You are now being DROPPED from our mailing list if your dues  
3 months or more in arrears in dues! This will probably be your last  
newsletter by mail until your dues are paid up, indicated by a  
red asterisk next to your name on the address label.

TRITON spring '85 catalog - all should have received. Byron says their  
peripheral box deal is cheaper than wholesaler.

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HIGHLIGHTS OF THE HOME COMPUTER MAGAZINE V.3 NO. 1 (received 2/85):  
POBox 70268, Eugene, OR 97401

-PROGRAM LISTINGS:

1. THE ORGANIZER - TO STRUCTURE THOUGHTS/RECORDS: REPORTS, FILE MANAGER  
AND EDITOR, FOR OUTLINES. GOOD WORKING TOOL. XB (EXTENDED BASIC).
2. QUIZ PRINT - TO GO WITH QUIZ CONSTRUCTION OF LAST ISSUE OF HCM. B/XB.
3. LOAN CALCULATOR - PAYMENTS, AMORTIZATION, ETC. B (BASIC, CONSOLE).
4. KORS-ELF - TYPING TUTOR AND DRILL GAME. XD.
5. ORBITAL DEFENDER - A SPACE WAR GAME. B OR XB.
6. BACKGAMMON - A SPACE WAR GAME. B OR XB.
7. WORM WOOD - A GRAPHICS BASIC ROUTINE.
8. LOGO SAILING - 2 PLAYER RACE GAME, GRAPHICS - FOR LOGO.

-ARTICLE ON LINKING HOME COMPUTER TO AMATEUR RADIO OPERATIONS.

-MORE RUMORS ON PRODUCTION OF A 64K COMPUTER UPWARD-COMPATIBLE WITH TI99.

-REVIEW OF HP THINKJET PRINTER. VERY QUIET, EASY TO USE, FAST. SPRAYS  
JETS OF INK, BUT BEST WITH MORE COSTLY PAPER. EXPENSIVE - \$300.

-GAME REVIEW: KING OF THE CASTLE. VERY FAST ASSEMBLY LANGUAGE ARCADE GAME.  
CHALLENGING AND ENTERTAINING BUT LITTLE VARIETY.

-TIPS TO IMPROVE PROGRAM EXECUTION SPEED WITH XB: TURN PRESCAN OFF AND ON;  
TURN OFF MOST OR ALL SPRITES.

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HIGHLIGHTS OF THE HOME COMPUTER MAGAZINE V.3 NO.2 (received 4/85)

-PROGRAM LISTINGS:

1. IT FIGURES - A HANDY MATH TOOL FOR USE OF UP TO 3 VARIABLES TO CREATE  
AND CALCULATE COMPLICATED FORMULAS. XBASIC.
2. SWITH 'N' SPELL - SPELLING PRACTICE - UNSCRAMBLE WORDS W/LEAST MOVES.
3. LASERITHMETIC - EDUCATIONAL GAME FOR BASIC MATH SKILLS. BASIC OR XB.
4. THE ORGANIZER REPORTS, PRINTING - FOR PROGRAM IN LAST ISSUE OF HCM. XB.
5. EVACU-POD - DELICATELY GUIDE SPACESHIP ON RESCUE. SPEED & SKILL. XB.
6. MUSIKEY - SOME QUICK TRICKS TO MAKE TO AN ORGAN WITH 3-PART HARMONY.

-REVIEW - MORNING STAR SOFTWARE'S CP/M EXTENSION DO. CARD FOR USE OF MOST  
OF THE MANY CP/M PROGRAMS. A QUALITY PRODUCT EASY TO SET UP & UNSE. \$595.

-REVIEW OF DRAGON MIX: TRADITIONAL VIDEO GAME BY TI FOR PRACTICING  
MULTIPLICATION AND DIVISION. OK GAME BUT NOT VERY STIMULATING.

-HELPFUL ARTICLE ON DATA BASE SYSTEMS. STEPS IN DESIGN AND USE OF DATA  
BASE. REWARDED BY EASE OF CREATION AND USEFULNESS.

-HOW TO BEST USE LIMITED 16K BY NUMERIC COMPATIBL.

HIGHLIGHTS OF THE MARCH '85 MICROPENDIUM

1. RUNDOWN ON VARIETY OF BULLETIN BOARD SYSTEMS THAT OPERATE ON THE TI99/4A.
2. NEW COMPUTER, TI-COMPATIBLE, TO DEBUT AT JUNE CONSUMER ELECTRONICS SHOW, - 128K RAM, 9995 CHIP, MUCH FASTER, 80 COLUMN CAPABLE. IF YOU HAVE SUGGESTIONS, OR \*ESPECIALLY\* TO ENCOURAGE IT, WRITE TO COMPUTER, c/o MICROPENDIUM, P.O. BOX 1343, ROUND ROCK, TX 78680. 99ers NEED IT!!!
3. REVIEW OF MORNING STAR CP/M CARD - FAIRLY GOOD, BUT EXPENSIVE (\$495) WITH EXPENSIVE SOFTWARE, ONLY 565D DISK. CONSIDER A CP/M COMPUTER.
4. REVIEW OF MYARC'S WINCHESTER DISK DRIVE, NOW NOT PRODUCED OR SOLD. VERY GOOD; HARD DISK DRIVES HAVE MANY ADVANTAGES, BUT \$2100.
5. REVIEW OF SKETCH MATE, TO GO WITH SUPER SKETCH GRAPHICS BOARD - LETS YOU SAVE TO DISKETTE OR PUT ON PRINTER. MUST HAVE WIDGET, 48K. EXCELLENT.
6. REVIEW OF BMC COLOR MONITOR, \$260. VERY GOOD BUT POOR DOCUMENTATION.
7. FREWARE (OR NEARLY SO) - LOTS AVAILABLE. WILL PROVIDE AT COST, FORTH LOADER, TI'S SUPPER BUGGER, AND ENHANCEMENTS.

HIGHLIGHTS OF THE FEB '85 ATLANTA CALL NEWSLETTER P#Box 17641, Atlanta, Ga 30325

1. SURVEY OF NEW HARDWARE AND AVAILABLE DISK DRIVES.
2. FORTH - SHORT WORD PROCESSOR, AND DIGITAL CLOCK PROGRAM LISTINGS.
3. TI-WRITER - GLITCH WITH KEYBOARD LOCKUP, FILES ARE STILL IN THE P-BOX! ALSO, CAN BE USED AS A DATA BASE. FILES ARE ALPHABETIZED.
4. LISTING - TO DRAW MICKEY MOUSE; ALSO ASSEMBLY LANG. SCREEN DUMP.
5. CHANGE CURSOR SHAPE, SCREEN COLOR FROM XB COMMAND MODE. LISTINGS FROM THE VALLEY 99'S OF COLUMBUS, GA.
6. LIST OF 100 USERS GROUPS THAT ATLANTA TRADES NEWSLETTERS WITH, PLUS 4 NOT ON AMNION'S LIST: SACRAMENTO, CA; AKRON, OH; AND PROVIDENCE, RI AND 99ERS US ASSOC.

PERFORMANCE TIP

If for some reason it is not user-friendly enough to access a record randomly by its record number, and you decide to use sequential access checking the "key" wanted to every record read, it is a lot faster (this cut my search time in half) to have the key fields at the beginning of the record. Only input the key fields (statement 40) until the match is found. Then input the other necessary fields (statement 90). The reason for the performance increase is the difference in the amount of time that it takes to move the extra fields into the I/O Buffer. For example, to find a name:

```

10 OPEN #2:"DSK1.NAME",INTERNAL,SEQUENTIAL,FIXED,INPUT
20 INPUT "NAME? ":INAME
30 FOR RECORD=1 TO LASTREC
40 INPUT #2:NAME,
50 IF INAME=NAME THEN 90
60 NEXT RECORD
70 PRINT "NOT FOUND"
80 GOTO 20
90 INPUT #2:STRADDR,BOXADDR,CITY,STATE,ZIP,PHONE
100 PRINT NAME:STRADDR:BOXADDR:CITY&","&STATE&" "&ZIP:PHONE
110 GOTO 20

```

Take it or leave it,  
Denise C. Wolff

FEBRUARY 1985 NEWSLETTER HIGHLIGHTS

CHUG BOX 136, HIXSON, TN 37343

PHONE DIALER PROGRAM in BASIC by LAPPY BRYANT

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CALGARY 99ers UG NEWSLETTER

TI FORTH DISK COPY Routine. COPIES a DISK in ONLY 3 PASSES.  
LEVEL ONE DISK DRIVE READ/WRITE ACCESS.

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LEHIGH UG P.O. BOX 4837, 1501 LEHIGH ST. ALLENTOWN, PA 18103

DETAILING XBASIC'S ASSEMBLY LANGUAGE ENVIRONMENT  
ASSEMBLY LANGUAGE (AL) SUBPROGRAM...LINKAGES  
AL: the RULES of the ROAD  
AL: PILGRIM'S PROGRESS  
AL: GRIST FOR THE MILL  
AL: SPRING FLOURS

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CLUB 99 NEWSLETTER 1877 E. FARLAND ST., COVINA, CA 91724

BINARY SEARCH: A SORTING ALGORITHM  
SURGE SUPPRESSOR...FROM CLUB 99 (ATTLEBORO, MA.)  
USING STRINGS (PART III) ... by VINCENT PALAZZOLO

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THE FRONT RANGER C/O 1722 N. EL PASO ST., COLORADO SPRINGS, CO 80907

\*FEBRUARY 21 MEETING...TWO SPECIAL GUESTS...LEON WEEB AND BRAD BRADLEY FROM T.I.\*  
\*TWO ENGINEERS TRANSFERRED FROM LUBBOCK, WHERE THEY WORKED ON THE 99/4A.\*\*\*\*\*

TREASURER'S REPORT.....OUTSTANDING  
PROGRAMMING TIPS AND REVIEWS by JOE NUVOLINI  
PRODUCT REVIEWS (PRINT BUFFER AND PTERM99, A TERMINAL PROGRAM (300-1200 BAUD).  
BOOTING THE FORTH SYSTEM

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THE R O M NEWLETTER, 17301 SANTA ISABEL ST., FOUNTAIN VALLEY, CA 92708

\*\*PERSONAL RECORD KEEPING (PRK) / BASIC by NEWT ARMSTRONG \*\*\*\*\*  
\*\*DID YOU KNOW THAT YOU CAN CALL 7 PRK SUBPROGRAMS\*\* FROM TI BASIC IF YOU HAVE\*\*  
\*\*THE MODULE INSTALLED? 5 OF THESE ALLOW YOU TO CREATE AND ACCESS PRK-FORMAT \*\*  
\*\*FILES, AND THE OTHER HAVE THE VERSATILITY of the ACCEPT AT and DISPLAY AT \*\*  
\*\*EXTENDED BASIC STATEMENTS.\*\*\*\*\* \*\*  
\*\* WE HAVE NEWT'S PRK PROGRAMS ON CASSETTE..I AM SORRY I HAVE NOT REVIEWED IT.\*\*

MODEM USER'S LIST  
ASSEMBLY #2  
THE FORTH DIMENSION #1  
PRACTICAL USES FOR THAT 8K! AN 8K BLOCK OF MEMORY SET ASIDE BY XBASIC FOR AL.

TIPS FROM THE TIGERCUB

#21

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TIGERCUB SOFTWARE  
156 Collingwood Ave.  
Columbus, OH 43213

Distributed by Tigercub Software to TI-99/4A Users Groups for promotional purposes and in exchange for their newsletters. May be reprinted by non-profit users groups, with credit to Tigercub Software.

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, PMA) Some users groups charge their members that such for public domain programs! I will send you my descriptive catalog for a dollar, which you can then deduct from your first order.

I thought that my 28-Column Converter, as published in Tips #18, was

finally foolproof, but someone found a way to print a program incorrectly with it!

I'm sure you know that characters 127-143, and on up to 159 in Basic, can be redefined and used in graphics. You probably also know that these redefined characters can be put into PRINT or DISPLAY AT statements, by holding down the CTRL key as you type them. If you load a program containing such redefined characters and LIST it, they will appear as blanks. If you RUN the program, so that they are redefined by the CALL CHAR statements, and then LIST it again, they will show up in their redefined form - but if you print out the program on your printer, they will still appear as blanks. So, before you publish a program, it's a good idea to RUN it and LIST it, and look for any of those gremlins.

If you do want to publish such a program, this fix will take care of it by underlining all characters that must be typed with CTRL down (except that lower case v is typed with FCTN down). It's slow, so only use it when you need to.

```
190 IF @#="E" THEN 195 :: PR
INT #2:".TL 126:94;" :: PRIN
T #2:".TL 123:64;" :: PRINT
#2:".TL 125:38;" :: PRINT #2
:".TL 124:42;" :: PRINT #2:"
.TL 92:46;" :: PRINT #2:".NF
"
195 PRINT "Does the program
contain": "redefined characte
rs above": "ASCII 126? (Y/N)"
196 ACCEPT AT(24,1)VALIDATE(
"YN"):Q#
282 IF @#="M" THEN 290
283 FOR J=1 TO LEN(L#)
284 A=ASC(SE66(L#,J,1)):: IF
A<127 THEN L2#L2#&CHR$(A):
: GOTO 288
285 IF A=127 THEN A=118 ELSE
IF A=128 THEN A=44 ELSE IF
```

```
A=155 THEN A=46 ELSE IF A=15
6 THEN A=59 ELSE IF A=157 TH
EN A=61 ELSE IF A=158 THEN A
=56 ELSE IF A=159 THEN A=57
ELSE A=A-64
286 L2#L2#&CHR$(27)&CHR$(45
)&CHR$(1)&CHR$(A)&CHR$(27)&C
HR$(45)&CHR$(0)
289 NEXT J :: L#L2# :: L2#="
"
```

That should do it, unless the number of added control characters stretches the line beyond 80 characters. Such is the case with the following, which I had to type in manually (it also contains low ASCII characters which the printer misinterprets as controls).

TIGERCUB CHALLENGE

```
100!The Unprintable Unkeyabl
e Program!
110!To shuffle the numbers 1
to 255 into a random sequen
ce without duplication
120!The strings contain the
ASCII characters 1 to 127 an
d 128 to 255
130!Most of the ASCII charac
ters below 32 or above 159 c
annot be input from the keyb
oard
140!So how was this program
programmed?
150 M#=""
: ""#%&%'()*+,-./0
123456789:;<=>?@ABCDEFGHIJKL
MNOPQRSTUVWXYZ[\]^_`abcd efgh
ijklmnopqrstuvwxyz{|}~"
160 M2#=""
"
170 M#M#&M2#
180 L=LEN(M#):: RANDOMIZE ::
X=INT(L&RND+1):: M=ASC(SE66
(M#,X,1)):: M#SE66(M#,1,X-1
)&SE66(M#,X+1,LEN(M#))
190 PRINT M#:: IF LEN(M#)=0
THEN STOP ELSE 130
```

GROCERY SHOPPING LIST

Are you desperate for some way to convince your wife that your computer and PEB and printer and all are not just a too-expensive plaything? Maybe this will do the job.

The first thing to do is to prepare a file of the grocery items she might want to buy. It will be especially useful if you can list the items in the sequence in which she will come to them in the aisles of her favorite store. This little program will set up the file. Type END when you are finished.

```
100 OPEN #1:"DSK1.BUYLIST",O
UTPUT
110 INPUT A#
120 IF A#="END" THEN 150
130 PRINT #1:A#
140 GOTO 110
150 CLOSE #1
```

If you have TI-Writer, you can also use that to create the file, edit it and add to it - but BE SURE to delete all the carriage return symbols and any blank lines at the end. Save it under the filename BUYLIST.

Next, this program will hopefully get your wife to actually sit down at the keyboard and try out your computer. It will go through the list and ask if she wants to buy. If she types in any quantity other than 0, it will output the item name and quantity to the printer. At the end, she will be given the opportunity to add any other items.

```
100 CALL CLEAR
110 OPEN #1:"DSK1.BUYLIST",I
NPUT
120 OPEN #2:"PIO"
130 LINPUT #1:A#
140 IF EOF(1)THEN 210
```

```

150 DISPLAY AT(12,1):A9
160 DISPLAY AT(12,LEN(A9)+2)
:00
170 ACCEPT AT(12,LEN(A9)+2)S
IZE(-4):0
180 IF Q=0 THEN 130
190 PRINT @2:A9&" "&STR$(Q)&
" "&CHR$(175)
200 GOTO 130
210 DISPLAY AT(12,1):"ADDITI
ONAL? Y"
220 ACCEPT AT(12,13)VALIDATE
("YM")SIZE(-1):0
230 IF W="N" THEN 300
240 DISPLAY AT(12,1):"ITEM?"
250 ACCEPT AT(12,7):A3
260 DISPLAY AT(14,1):"QUANTI
TY?"
270 ACCEPT AT(14,11):0
280 PRINT @2:A5&" "&STR$(Q)&
" "&CHR$(175)
290 GOTO 210
300 CLOSE #1
310 CLOSE #2
320 END

```

The list will be in enlarged print, so that no one in the store will see her putting on her reading spectacles. And after each item and quantity is a blank square to be checked off when she picks up the item.

You might also point out that she could use the checkoff blocks to mark the items she has coupons for, and she could jot down prices on it to be sure she isn't cheated at the checkout counter, or to shop for better bargains elsewhere.

The program is set up for the Gemini printer. You may need to change the "PIO" to the name of your printer, and other printers may not have the open block character CHR\$(175) available.

Of course, you can also use this program for more important things, such as shopping for computer software....!

If you type the period key while holding down the

CTRL key, the printer interprets the resulting blank space as CHR\$(27), even though the computer knows it is really CHR\$(155). Since CHR\$(27) is the ESC or "escape code" which tells the printer to interpret the following characters as function command codes, you can for instance set up the printer for emphasized double-struck double-width underlined italics by OPEN #1:"PIO" :: PRINT #1:" E S W"&CHR\$(1)&" -"&CHR\$(1)&" 4", using CTRL . in the blanks. I have been overlooking another very useful feature, the skip-over perforation. PRINT #1:" N"&CHR\$(6), again with CTRL . in the blank, causes the paper to advance to the top of the next page when there are only 6 lines left at the bottom of the page (providing that you started at the top, of course). This makes it possible to LIST "PIO" a program, or PF PIO from TI-Writer Editor, without printing right across the perforations.

Ghosts! Did you ever read data from a file, and find that you were getting data from a file that was no longer on the disk? It can happen, at least if you are reading from a RELATIVE file in the UPDATE mode. When you delete a file, only its address is actually deleted - the data remains on the disk until it is overwritten by a new file. If the new file is shorter than the old one, and you try to read beyond the end of the file, you may awaken the ghost!

Are you making use of those special characters that are available on your Gemini printer? You didn't know about them? Try this.

```

100 OPEN #1:"PIO" :: 110
PRINT #1:" (hold down the
CTRL key and type 1234567/
and then hold down the FCTN
key and type </>019HJKLMMQY
)". RUN. Surprised? Some
of those can be very
useful, such as the true
division sign that you get
with FCTN H. There are many
more of these that you can
access by CHR$. For a
complete list of them and
their CHR$ codes, run this -
100 OPEN #1:"PIO" :: FOR
CH=160 TO 254 :: PRINT
3:1:CHR$(CH);: NEXT CH ::
CLOSE #1. Unfortunately,
these can't be used out of
TI-writer.

```

Here's a handy little routine to practice up on your typing.

```

100 CALL CLEAR
110 CALL CHAR(94,"3C4299A1A1
99423C")
120 CALL SCREEN(5)
130 CALL VCHAR(1,31,1,96)
140 CALL COLOR(1,8,16)
150 FOR SET=2 TO 12
160 CALL COLOR(SET,2,16)
170 NEXT SET
180 PRINT TAB(10);"TIGERCUB"
: TAB(8);"TOUCH-TYPING": :T
AB(11);"TUTOR": :TAB(9);" T
igerCub Software": :
190 REM by Jim Peterson
200 PRINT " Watch the screen,
not the keyboard!" :
Letters and numbers will
210 PRINT " appear on the sc
reen grid" : in position cor
responding" : to their keybo
ard position." : Type the
a and they will
220 PRINT " disappear." : :
" Press any key"
230 CALL KEY(0,K,BT)
240 IF BT=0 THEN 230
250 CALL CLEAR
260 CALL CHAR(32,"FFB0B0B0B0
B0B0B")
270 CALL VCHAR(1,30,1,192)
280 CALL HCHAR(14,1,1,384)
290 CALL VCHAR(1,4,1,14):: C
ALL VCHAR(3,6,1,11):: CALL V
CHAR(8,7,1,6):: CALL VCHAR(1
1,8,1,3):: CALL VCHAR(8,29,1

```

```

,6)
300 CALL VCHAR(11,28,1,3)
310 CALL CHAR(48,"003A444C54
6444B8")
320 KEY$="1234567890=QWERTYU
IOP/ASDFGHJKL; "&CHR$(13)&"ZX
CVBNM,."
330 RANDOMIZE
340 K=ASC(SEE$(KEY$,INT(428K
ND+1),1))
350 GOSUB 370
360 GOTO 420
370 X=POS(KEY$,CHR$(K),1)
380 Y=ABS(X>11)+ABS(X>22)+AB
S(X>33)+1
390 R=Y#3
400 C=((X-ABS(Y>1))*(Y-1)+1)
82)+4+Y
410 RETURN
420 CALL HCHAR(R,C,K)
430 CALL KEY(3,K,BT)
440 IF BT=0 THEN 430
450 GOSUB 370
460 CALL HCHAR(R,C,6)
470 IF C>32 THEN 500
480 CALL SOUND(-100,110,0,-4
,0)
490 GOTO 340
500 CALL HCHAR(R,C,52)
510 CALL SOUND(-100,1000,0,1
005,0)
520 GOTO 340

```

Here's one for the kids to have fun with. I'm sorry I lost track of who published it.

```

100 CALL INIT :: FOR J=1 TO
100 :: PRINT J :: FOR P=100)
TO 1 STEP -J :: CALL LOAD(-
31456,P):: NEXT P :: NEXT J

```

MEMORY FULL,  
Jim Peterson

COURTESY: EUGENE 99/4A USERS GROUP  
P.O. BOX 11313  
EUGENE, OR  
97440

MARCH 1985

Ryte Data MEMBER HALIBURTON CHAMBER OF COMMERCE  
BOX 210 MOUNTAIN STREET  
HALIBURTON, ONTARIO K0M 1S0 CANADA (705) 457-2774

31 JANUARY/85

Dear Users Group,

**IMPORTANT ANNOUNCEMENT FOR ALL TI 99/4A OWNERS!**

A NEW COMPUTER - based on the successor to the 99/4A: the "99/8", has been developed by one of the foremost TI support companies. Fully hardware and software compatible, this machine promises to revive the huge TI 99/4A world. This new computer goes beyond the unreleased 99/8 in several important ways.

The formal release is scheduled for the June 85 Consumer Electronics Show. Beta testing is slated to begin as soon as the printed circuit boards roll off the production line. Full scale production hinges upon the interest and response generated among TI users in North America. Being long term, die hard TI enthusiasts, we intend on supporting this new machine fully. As the company has not officially announced public availability and FINAL system features, we have been asked to not reveal certain information at this time. The new computer will be produced and marketed under a different company name as well. We are working on determining the level of interest. To be first and foremost, everyone is offered the first newsletter and initial users support for this machine (and the 99/4A) free of charge. Write us with a self-addressed large envelope - #10 or larger - and will send you the first copy free of charge. Pass this along to your friends and associates. We would appreciate postage costs - US stamps cannot be used from Canada.

You can be assured that your system will not become obsolete. We understand that existing TI equipment can be used with this new computer! It was only a matter of time before someone took advantage of the superb technology represented by the 99/4A.

We would also like addresses of TI users groups you may know of. Several groups have come to our attention that were not listed in our files. We are also seeking assembly language programmers who wish to provide programs for this true 16 bit - 10 megahertz computer. Code is fully compatible with the 9900 chip.

As per our last letter, we are interested in users group newsletters to provide a forum for information resources among all TI owners here and abroad.

Looking forward,

Bruce Ryan

Bruce Ryan

PEEK'S AND POKES

THE FOLLOWING IS A LIST OF PEEK'S AND POKES (CALL LOAD) THAT CAN BE USED WITH EXTENDED BASIC AND MEMORY EXPANSION. EXAMPLES OF USING THESE COMMANDS ARE AS FOLLOWS:

CALL INIT

CALL PEEK(2,X,Y) THIS RETRIEVES VALUES OF X AND Y

CALL LOAD(-21804,X,Y) THIS POKES X AND Y VALUES INTO MEMORY.

-----  
ADDRESS : PARAMETERS : DESCRIPTION (EXTENDED BASIC) -----  
-----

2 : PEEK X,Y : RETURNS VALUE OF PEEK(-2180,0,16)  
-26072 : PEEK 0 OF 96 : =0 SPEECH NOT AVAILABLE =96 SPEECH AVAILABLE  
-31744 : POKE 0-15 : CONTINUE LAST SOUND 0=LOUDEST 15= QUIETEST -31748 ;  
-31748 : POKE 0-255 : RATE OF FLASH OF CURSOR AND SOUND TONE RATES  
-31788 : POKE 150 : BLANK SCREEN WHEN NEXT KEY IS HIT  
-31788 : POKE 192 : DISABLES SPRITE MOTION AND AUTOMATIC SOUND  
-31788 : POKE 224 : NORMAL SPRITE MOTION AND SOUND  
-31788 : POKE 225 : MAGNIFIED SPRITES  
-31788 : POKE 226 : DOUBLE SIZED SPRITES  
-31788 : POKE 227 : MAGNIFIED AND DOUBLE SIZED SPRITES  
-31788 : POKE 232 : MULTICOLOR MODE IN 48 BY 64 SQUARES  
-31794 : PEEK 0-255 : CALL SOUND TIMER VALUES FROM 0 TO 255 COUNTS  
-21804 : POKE X,Y : RETURN TO TITLE SCREEN WITH VALUES RETURNED FROM CALL  
CALL PEEK(2,X,Y) X=0 Y=15 WORKS  
-31806 : POKE 0 : RESETS TO NORMAL THE FOLLOWING POKES AT -31806  
-31806 : POKE 16 : DISABLES QUIT KEY INTERRUPT (FUNCTION =)  
-31806 : POKE 22 : DISABLES SOUND  
-31806 : POKE -72 : CONTINUOUS SOUND  
-31806 : POKE 64 : DISABLES SPRITE MOTION  
-31806 : POKE 129 : DISABLE QUIT KEY,SOUND,SPRITE MOTION  
-31806 : PEEK X,Y : TWO RANDOM NUMBERS RETURNED AFTER RANDOMIZE IS USED  
-31860 : POKE 4 : WILL GO TO BASIC AFTER NEW IS TYPED  
-31860 : POKE 8 : AUTOMATIC RUN OF OSK1.LOAD  
-31866 : PEEK X,Y : RETURNS THE ADDRESS OF END CPU PROGRAM AS X=Y  
-31868 : POKE 0 : ENABLES BREAK (FUNCTION 4)  
-31873 : POKE 3-30 : COLUMN ON SCREEN TO START PRINT  
-31877 : PEEK X : X125 SPRITE COINCIDENCE X&15 FIVE SPRITES IN LINE  
-31878 : PEEK X POKE 0 : HIGHEST NUMBER SPRITE IN MOTION (0 ALL SPRITES  
STOPPED) POKE 0 STOPS MOTION  
-31879 : PEEK X : TIMER FOR VDF INERUPTS EVERY 1/60 SEC (0-255  
-31880 : PEEK X : RANDOM NUMBER (0-99) AFTER USING RANDOMIZE  
-31884 : POKE 0-5 : CHANGE KEYBOARD MODE AS IN CALL KEY  
-31888 : POKE 63,255 : DISABLE DISK DRIVE THEN TYPE NEW TO FREE MEMORY  
-31888 : POKE 65,215 : ENABLE DISK DRIVE THEN TYPE NEW TO SET BUFFERS  
-31901 : POKE 1 : UNPROTECT EXTENDED BASIC PROGRAMS  
-31901 : POKE 2 : SET COMMAND "ON WARNING NEXT"  
-31901 : POKE 4 : SET COMMAND "ON WARNING STOP" -31901 : POKE 16 : SET  
COMMAND "TRACE" -31901 : POKE 64 : SET COMMAND "ON BREAK NEXT"  
-31901 : POKE 128 : PROTECT EXTENDED BASIC PROGRAMS -31960 : POKE 32 :  
RETURNS TO TITLE SCREEN -31960 : POKE 255 : RUN OSK1.LOAD

FROM TRI CITIES 99'ER FEB 1981  
2011 W FALLS AVE  
KENNEWICK, WA 99336

```
FROM PUGET SOUND 99'ER  
by Tom & Chuck Wayne  
100 CALL SCREEN(5)  
110 CALL CLEAR  
120 DISPLAY AT(24,5):"RELEAS  
E ALPHA LOCK" :: DISPLAY AT  
1,5):"JOYSTICK CHECK PROGRAM  
"  
130 DISPLAY AT(3,21):"PINS"  
:: DISPLAY AT(4,20):"SHORTED  
"  
140 DISPLAY AT(5,1):"CALL KE  
Y(1,V,W)" :: DISPLAY AT(14,1  
):"CALL KEY(2,X,Y)"  
150 CALL JOYST(1,K,Y)  
160 CALL JOYST(2,V,W)  
170 CALL KEY(1,KK,SS)  
180 IF KK=18 THEN DISPLAY AT  
(6,20):"";"FIRE"";TAB(20);"7  
AND 4" ELSE DISPLAY AT(6,20  
):" "  
190 CALL KEY(2,LL,MM)  
200 IF LL=18 THEN DISPLAY AT  
(15,20):"";"FIRE"";TAB(20);"  
2 AND 4" ELSE DISPLAY AT(15,  
20):" "  
210 IF K=0 AND Y=4 THEN A$=""  
UP  
220 IF V=0 AND W=4 THEN B$=""  
UP 2 AND 3"  
230 IF K=4 AND Y=4 THEN A$=""  
UP RIGHT 7,3 AND 9"  
240 IF V=4 AND W=4 THEN B$=""  
UP RIGHT 2,3 AND 9"  
250 IF K=4 AND Y=0 THEN A$=""  
RIGHT 7 AND 9"  
260 IF V=4 AND W=0 THEN B$=""  
RIGHT 2 AND 9"  
270 IF K=4 AND Y=-4 THEN A$=""  
DOWN RIGHT 7,8 AND 9  
"  
280 IF V=4 AND W=-4 THEN B$=""  
DOWN RIGHT 2,8 AND 9  
"  
290 IF K=0 AND Y=-4 THEN A$=""  
DOWN 7 AND 8"  
300 IF V=0 AND W=-4 THEN B$=""  
DOWN 2 AND 8"  
310 IF K=-4 AND Y=-4 THEN A$=""  
DOWN LEFT 7,5 AND  
8"  
320 IF V=-4 AND W=-4 THEN B$=""  
DOWN LEFT 2,5 AND  
8"  
330 IF K=-4 AND Y=0 THEN A$=""  
LEFT 7 AND 5"  
340 IF V=-4 AND W=0 THEN B$=""  
LEFT 2 AND 5"
```

```
350 IF K=-4 AND Y=4 THEN A$=""  
UP LEFT 7,3 AND 5  
"  
360 IF V=-4 AND W=4 THEN B$=""  
UP LEFT 2,3 AND 5  
"  
370 IF V=0 AND W=0 THEN B$=""  
CENTERED"  
380 IF K=0 AND Y=0 THEN A$=""  
CENTERED"  
390 DISPLAY AT(6,1):"JOY 1=  
";K;Y  
400 DISPLAY AT(15,1):"JOY 2=  
";V;W  
410 DISPLAY AT(7,2):A$  
420 DISPLAY AT(16,2):B$  
430 GOTO 150
```

The second joystick program (Basic or ExBasic) come for the Compute Magazine, January issue and it demonstrates moving two figures around the screen using two joysticks. The color of the figures can be changed using the fire button:

```
10 REM TWO JOYSTICK DEMO  
20 REM COMPUTE MAG. 1/85  
30 CALL CHAR(47,"1818423C183  
C4242")  
40 CALL CHAR(48,"003C7E7E7E7  
E7E3C")  
50 X(1)=15  
60 Y(1)=11  
70 Y(2)=11  
80 X(2)=17  
90 C(1)=13  
100 C(2)=14  
110 I=1: COLOR(2,C(1),1)  
120 I=2: COLOR(3,C(2),1)  
130 CLEAR  
140 CALL SCREEN(15)  
150 FOR I=1 TO 2  
160 CALL JOYST(1,DX,DY)  
170 CALL KEY(1,K,S)  
180 IF K<18 THEN 210  
190 C(I)=C(I)+1+(C(I)=16)  
200 CALL COLOR(I+1,C(I),1)  
210 CALL HCHAR(Y(I),X(I),32)  
220 Y(I)=Y(I)+DY/4  
230 X(I)=X(I)+DX/4  
240 X(I)=INT(32*((X(I)-1)/32  
-INT((X(I)-1)/32))+1  
250 Y(I)=INT(24*((Y(I)-1)/24  
-INT((Y(I)-1)/24))+1  
260 CALL HCHAR(Y(I),X(I),16+  
I)  
270 NEXT I  
280 GOTO 150
```