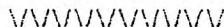




HOCUS

Home Computer
Users Spotlight
a monthly publication of the
Milwaukee Area 99/4 Users Group

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4122 No. Glenway - Wauwatosa WI 53222

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Membership in the Milwaukee Area 99/4 Users Group is open to all interested in using, playing with, learning about or programming in the still-kicking *** Texas Instruments 99/4(A) Home Computer ***

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Meeting dates are the SECOND SAT. each month in the lower level of WAUWATOSA SPAINES & LOAN 7500 W. State Street 1:00 til 4:00 P.M.

REPLACING YOUR MINI MEMORY BATTERY FOR UNDER \$2.00

Richard J. Bailey
68A Church Street
Gonic, N.H. 03867
NH99ER USER GROUP

Apparently some people have checked with T.I. and found that it would cost up to \$35 to replace their Mini Memory battery. However for those brave souls who are willing to replace the battery themselves, it can be done for \$1.79. To find if your battery needs to be replaced, measure the battery voltage, it should be 3 volts, if it's much less than that, replace it with Radio Shack CR2032 (CAT#23-162). These cells have a shelf life of between 5 to 10 years and should last almost that long in the circuit. The case is the positive terminal just like the original but unlike it the CR2032 doesn't have leads and must be soldered on.

WARNING Lithium batteries can be destroyed by heating them and certain types can explode !!!

Don't try to make this modification if you don't think you're competent, you might destroy your MiniMem. or worse.

Scrape the center of the case where you are to solder a solid #20 wire. A lead from a 1 or 2 watt resistor is ideal. Melt a small glob of solder onto the end of the wire and quickly solder it to the battery case. This is best done with a 100 watt soldering gun. Be sure the gun's hot before you try to solder the wire on. Soldering should nly take 1 second. Have a wet paper towel ready to press on the battery as soon as you remove the soldering gun. Insulation between terminals may be thermal plastic and could deform allowing the battery to short if you aren't quick. Cut the soldered lead close to the resistor body and flip the battery over and solder a lead on the other side, making sure that it doesn't touch the positive terminal. Be sure that this lead points 180 degrees away from the other lead so the battery will mount the same way as the original one. Bend the leads so they will fit into the slots for the original battery. Before you remove the original, note that the positive lead is connected toward the outside of the board. Quickly solder the replacement in the same way. Check the voltage across the battery. If it reads 3 volts, you're all set.

H
I
A
N
D
S



Richard J. Bailey
 MAKING ONE MODULE THAT COMBINES 68A Church Street
 E/A, DISK MANAGER, AND TI-WRITER Sonic, N. H. 03867
 NH99ER USER GROUP

If you've ever opened any of your command modules like the ones listed in the title of this article, you'll see the infamous GROM chips. The modules that use these GROMs have corresponding pins on all chips bussed together. The GROM itself determines the addressing and there can be one or more GROMs depending on the cartridge. There is a common reset line (pin 14) on all the chips and MULTIPLAN uses 5 of these GROMs, all in parallel. One thing all these cartridges have in common is the circuit board that has room for up to 5 GROMs.

If you were to take TI-WRITER and E/A that both have only one GROM each, and put both those GROMs on one board, option 1, BASIC, would be O.K.. However, option 2 would be garbage because each GROM is trying to display its function. To get around this problem you have to use separate resets to each of the GROM sets. To do this I removed the solder from all the blank i.c. locations on the TI-WRITER board (or any board you'll be using that has one GROM) and removed the 100 ohm resistor which you'll later reuse. You now have to cut the reset line (the run connecting pin 14 on all chips) between the chip sets for the GROMs you are adding, i.e. DISK MANAGER II has 2 GROMs so cut the run on either side of where you insert those chips, but not in between.

You now have to add a switch to connect the 100 ohm resistor to each of the GROM sets you are using. I'll leave it up to you what you use for a switch. If you only have 2 functions in a cartridge, then a 2 position miniature slide switch is ideal. If you have 3 functions, you could use a DIP switch but then you have to remember to only have 1 switch on at a time or you'll get garbage when you try to make a 2nd or 3rd selection. The 100 ohm resistor has to be connected from the common on the switch to the hole on the outside edge of the board where it was originally. The switch can be located directly over the location the resistor originally occupied and you will have to cut a hole in the top of the cartridge case so you have access to the switch slide or whatever.

It's important that you remember that any modification is your own responsibility and if anything goes wrong, you are the one to suffer, not me. Try to make sure that everything will physically fit and be VERY careful removing and handling the i.c.s. I would recommend using sockets on the board you are going to use (clean the i.c. pins of all solder before inserting in sockets) so you can easily replace them in the original cartridge (use socket here also) if you decide to undo the modification for any reason. Some of the cheaper modules like MunchMan have 4 or 5 possible i.c. locations. If you use the MunchMan cartridge, you can also include the BK ram modification that Ron Bries and John Clulow came up with and have a really super cartridge!!

```

100 ! *****
110 ! SPRITEPEDE
120 ! by:
130 ! Gary Christensen
140 ! of TI B.U.G.
150 ! *****
160 CALL CLEAR :: CALL SCREE
N(16):: CALL COLOR(2,5,5)::
CALL HCHAR(24,1,42,64):: CAL
L VCHAR(1,31,42,96)
170 DISPLAY AT(1,9)SIZE(12):
"SPRITEPEDE"
180 FOR A=4 TO 109 STEP 5 ::
FOR B=1 TO 7 :: GOSUB 200 ::
NEXT B :: NEXT A :: FOR A=10
9 TO 4 STEP -5 :: FOR B=7 TO
1 STEP -1 :: GOSUB 200
190 NEXT B :: NEXT A :: GOTO
180
200 CALL SPRITE(#B,42,2,B*3+
A,128,#B+7,42,2,B*3+A+16,128
,#B+14,42,2,B*3+A+32,128,#B+
21,42,2,B*3+A+48,128):: RETU
RN

```

```

100 REM *****
110 REM * TELTUNES *
120 REM *by David Vaughn*
130 REM *VAUGHN SOFTWARE*
140 REM *****
150 REM
160 REM
170 CALL CLEAR
180 DIM TN$(9)
190 DATA 948.01331.7,699.112
15.9,699.11331.7,699.11471.9
,766.21215.9,766.21331.7,766
.21471.9
200 DATA 847.41215.9,847.413
31.7,847.41471.9
210 FOR A=0 TO 9
220 READ TN$(A)
230 NEXT A
240 INPUT "PHONE NUMBER?: ":
PH$
250 FOR A=1 TO LEN(PH$)
260 C=VAL(SEG$(PH$,A,1))
270 CALL SOUND(50,VAL(SEG$(T
N$(C),1,5)),0,VAL(SEG$(TN$(C
),6,6)),0)
280 NEXT A
290 FOR D=1 TO 50
300 NEXT D
301 GOTO 240

```

```

1 ! WHEW4
2 CALL CLEAR :: PRINT "SET C
OLORS" :: FOR A=1 TO 12 :: C
ALL COLOR(A,16,4):: NEXT A
3 PRINT "BUILD THE STR#" ::
FOR A=0 TO 254 :: A$=A$&CHR$(
A):: NEXT A
4 PRINT "SHOW ALL CHARS" ::
FOR A=0 TO 31 STEP 2 :: B=1+
(A*8):: DISPLAY AT(A/2+3,3):
SEG$(A$,B,8):" ";SEG$(A$,
B+8,8):: NEXT A
5 PRINT "ANY KEY TO TEST CAL
L LOAD"
6 CALL KEY(0,K,S):: IF S=0 T
HEN 6
7 FOR B=31 TO 125 :: CALL IN
IT :: CALL LOAD(-31878,B)
8 DISPLAY AT(14,5)SIZE(-5)BE
EP:B :: NEXT B
9 ! CALL LOAD(-31878,0)
10 ACCEPT AT(14,14)SIZE(-1):
A$ 11 CALL LOAD(-31878,0)

```

A HANDY DANDY TI-WRITER USERS REFERENCE GUIDE

SUBMITTED BY BOB STEPHENS

The following handy TI-WRITER commands are reprinted for the June issue of the 99'er News published by the TI Users Group of Will County, Romeoville, IL. This puts the most used commands on one page for handy access at your computer.

```
=====
EDITOR COMMAND |FCTN|CTRL| EDITOR COMMAND |FCTN|CTRL| EDITOR COMMAND |FCTN|CTRL|
=====
Back tab          |   |   | T |Ins. Blank line | 8 |   | O |Quit          |   |   | = |
Beginning/line   |   |   | V |Insert character| 2 |   | G |Reformat      |   |   | 2orR
Command/escape   | 9 |   | C |Last paragraph  |   | 6orH|H|Right arrow   | D |   | D
Delete character | 1 |   | F |Left arrow      | 5 |   | S |Roll down     | 4 |   | A
Del. end of line|   |   | K |Left margin rel.|   |   | Y |Roll up       | 6 |   | B
Delete line      | 3 |   | N |New page        |   | 9orF|F|Screen color   |   |   | 3
Line #'s(on/off)| 0 |   |   |New paragraph   |   | 8orM|M|Tab          | 7 |   | I
Down arrow       | X |   | A |Next paragraph  |   | 4orJ|J|Up arrow       | E |   | E
Duplicate line   |   |   | S |Next window     | 5 |   |   |Word tab      |   |   | 7orW
Home cursor      |   |   | L |Oops!          |   | 1orZ|Z|Word wrap/fixed|   |   | 0
=====
Load files: LF (enter) DSK1.FILENAME (load entire file)
             LF (enter) 3 DSK1.FILENAME (merges filename with data in memory
             after line 3)
             LF (enter) 3 1 10 DSK1.FILENAME (lines 1 thru 10 of filename are
             merged after line 3 in memory)
             LF (enter) 1 10 DSK1.FILENAME (loads lines 1 thru 10 of filename)
=====
Save files: SF (enter) DSK1.FILENAME (save entire file)
            SF (enter) 1 10 DSK1.FILENAME (save lines 1 thru 10)
=====
Print Files:PF (enter) PIO (prints control characters and line numbers)
            PF (enter) C PIO (prints with no control characters)
            PF (enter) L PIO (prints 74 characters with line numbers)
            PF (enter) F PIO (prints fixed 80 format)
            PF (enter) 1 10 PIO (prints lines 1 thru 10)
NOTE: The above assumes PIO, DSK1.FILENAME, and RS232 are also valid!
      To cancel the print command press FCTN 4.
=====
Delete file:DF (enter) DSK1.FILENAME
=====
Setting Margins and Tabs: (16 tabs maximum)
      L - Left margin      R - Right margin      I - Indent      T - Tab
      Use ENTER to execute or COMMAND/ESCAPE to terminate command.
=====
Recover Edit: RE (enter) Y or N
=====
Line move: M (enter) 2 6 10 (moves lines 2 thru 6 after line 10)
           M (enter) 2 2 10 (moves line 2 after line 10)
=====
Copy: same as move except use C instead of M.
=====
Find String: FS (enter) /string/ (will look for string in entire file)
            FS (enter) 1 15 /string/ (will look for string in lines 2 thru 15)
=====
Delete: D (enter) 10 15 (deletes lines 10 thru 15 in memory)
=====
```

TIPS FROM THE TIGERCUB

#24

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156 Collingwood Ave.
Columbus, OH 43213

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

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

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

TIJ
UDS:TDFFFA
BJIF
JDIF
SURS
STSA
SFBF
IRA

The above is a long division problem in the proper format, with each numeral replaced by a letter. Can you solve it?

My program TC-41 Long Division Cryptograms, will generate an infinite number of such puzzles for you, and help you to solve them - and it only costs \$3.00. It took me a week to program, and I've sold 12 copies in 2 years! Doesn't anyone like to exercise their brains anymore?

TIGERCUB CHALLENGE

```
100 FOR J=1 TO 7 :: READ M$
:: PRINT M$ :: NEXT J
30000 DATA AAAAAAAAAAAAAAAAAA
AAAAAAAAAAAA,BBBBBBBBBBBBBB,BB
BBBBBBBBBBBB,CCCCCCCCCCCCCC,
DDDDDDDDDDDDDD
30010 DATA "TESTING",,,,,,
,,,,,,""TESTING"
>RUN
AAAAAAAAAAAAAAAAAAAAAAAAAAAA
BBBBBBBBBBBBBBBB,BBBBBBBBBBBBBBBB
CCCCCCCCCCCCCC
DDDDDDDDDDDDDDDD
"TESTING"
,,,,,,""TESTING"
$ READY $
```

Can you run this program and get these results? You won't even be able to key in that last DATA item! So, how was this programmed? No, there are no redefined characters!

Do you need something educational? Here is a little routine to give the plural endings for most words. I will leave it to you to develop further - and see if you can teach the computer the plurals of PANTS, TOOTH, MAN, FUNGUS, DATA and the other inconsistencies of the English language.

```
100 REM PLURAL ENDINGS
    by Jim Peterson
110 INPUT M$
120 Z$=SE6$(M$,LEN(M$),1)
130 Y$=SE6$(M$,LEN(M$)-1,2)
140 ON POS("EFHSXYZ",Z$,1)+1
    GOTO 270,150,190,180,250,250
0,220,250
150 IF SE6$(M$,LEN(M$)-2,2)<
    >"IF" THEN 270
160 PL$=SE6$(M$,1,LEN(M$)-2)
    &"VES"
170 GOTO 280
180 IF (Y$="CH")+ (Y$="SH")TH
    EN 250 ELSE 270
190 IF (Y$<>"LF")&(Y$<>"RF")
    &(Y$<>"AF")&(M$<>"HOOF")THEN
    270
200 PL$=SE6$(M$,1,LEN(M$)-1)
    &"VES"
210 GOTO 280
220 IF (Y$="AY")+ (Y$="EY")+ (
    Y$="OY")+ (Y$="UY")THEN 270
230 PL$=SE6$(M$,1,LEN(M$)-1)
    &"IES"
240 GOTO 280
250 PL$=M$&"ES"
260 GOTO 280
270 PL$=M$&"S"
280 PRINT PL$
290 GOTO 110
```

If you want to turn that into a quiz, change line 110 to READ M\$, change line 280 to PRINT M\$; PLURAL?":. Add lines - 281 INPUT Q\$ 282 IF Q\$<>PL\$ THEN 285 283 PRINT : "RIGHT!": 284 GOTO 110 285 PRINT : "WRONG! PLURAL OF ";M\$; " IS ";PL\$: 300 DATA BOX,WATCH,WIFE,BOY (And as much more as you want)

Just one more optional refinement to my Menu Loader. If you want to use a filename ending in an asterisk for those Basic programs which will not run in XBasic, this change will keep you from loading and crashing them.

```
420 CLOSE #1 :: IF SE6$(P6$(
    K),LEN(P6$(K)),1)="#" THEN D
    ISPLAY AT(12,1)ERASE ALL:"RE
```

TURN TO BASIC AND LOAD BY:" TYPING OLD DSK1."&P6\$(K):: S TOP

The idea of a program that writes a program has stirred up a little interest, so here's another. This routine will aid you in formatting your screen text into neat 28-column lines, and will save the text in program lines of DATA statements. When you are ready to save, type @@@ and enter as the last line, then NEW and MERGE DSK1.LINEFILE

```
100 !LINewriter
    - by Jim Peterson
130 CALL CLEAR :: OPEN #1:"D
    SK1.LINEFILE",VARIABLE 163 :
    : LN=30000
140 FOR R=1 TO 24 :: DISPLAY
    AT(R,1)SIZE(1):" " :: ACCEP
    T AT(R,0)SIZE(-28):A$ :: IF
    A$="@@@" THEN 180 :: B$=B$&C
    HR$(200)&CHR$(LEN(A$))&A$
150 X=X+1 :: IF X/4=INT(X/4)
    THEN 160 ELSE B$=B$&CHR$(179
    ):: GOTO 170
160 GOSUB 210 :: LN=LN+10
170 NEXT R :: X=0 :: CALL CL
    EAR :: GOTO 140
180 IF B$="" THEN 200 :: IF
    SE6$(B$,LEN(B$),1)=CHR$(179)
    THEN B$=SE6$(B$,1,LEN(B$)-1)
190 GOSUB 210
200 PRINT #1:CHR$(255)&CHR$(
    255):: CLOSE #1 :: END
210 PRINT #1:CHR$(INT(LN/256
    ))&CHR$(LN-256*INT(LN/256))&
    CHR$(147)&B$&CHR$(8): B$=B$
    L$ :: RETURN
```

Here's something for "JET" and Danny and Gene and all the rest of my friends in Alabama - and in all the rest of Dixie. You've never seen fireworks quite like these before!

```
100 CALL CLEAR :: PRINT TAB(
    5);"ALABAMA 4th of JULY": :
    : : : : "programmed by
    Jim Peterson" :: FOR D=1 TO
    200
110 NEXT D :: RANDMIZE
120 DIM S$(12),A$(16),S(16)
```

```

SX$(15)
130 DATA 196,220,247,262,294
,330,349,392,440,494,523,587
,659
140 FOR J=4 TO 16 :: READ S(J)
:: NEXT J :: FOR SET=2 TO
14 :: CALL COLOR(SET,1,1)::
NEXT SET :: CALL SCREEN(2)
150 DATA 00,18,24,3C,42,5A,6
6,7E,81,99,AS,8D,C3,8B,E7,FF
160 FOR J=1 TO 16 :: READ A$(
J):: NEXT J
170 FOR CH=40 TO 136 STEP 8
:: FOR L=1 TO 4 :: X=INT(16*
RND+1):: B$=B$&A$(X):: C$=A$
(X)&C$ :: NEXT L
180 SX$(CH/8-4)=B$&C$ :: CAL
L CHAR(CH,B$&C$):: GOSUB 350
:: B$=NUL$ :: C$=NUL$ :: NE
XT CH
190 FOR J=1 TO 12 :: FOR L=1
TO 6 :: X=CHR$(INT(13*RND+
5)+8):: B$=B$&X$X$ :: C$=X$
&X$&C$ :: NEXT L
200 S$(J)=B$&C$ :: B$=NUL$
: C$=NUL$ :: NEXT J :: CALL
MAGNIFY(2)
210 FOR J=1 TO 12 :: DISPLAY
AT(J,3):S$(J):: NEXT J :: X
=1 :: FOR J=13 TO 24 :: DISP
LAY AT(J,3):S$(J-X):: X=X+2
:: NEXT J :: CALL DELSPRITE(
ALL):: FOR D=1 TO 200 :: NEX
T D
220 DATA 1,11,7,1,9,7,2,7,4,
2,4,7,1,7,4,1,4,8,1,4,9,1,4,
10,2,11,7,2,7,11,2,11,7,2,9,
4
230 DATA 2,12,5,2,5,12,3,12,
7,1,11,7,3,12,5,1,11,7,1,12,
5,1,13,4,1,14,5,1,15,10
240 DATA 6,16,7,1,14,9,1,11,
7,6,14,4,1,11,7,1,9,4,6,11,6
,1,8,6,1,9,7,6,7,4
250 DATA 1,11,7,1,13,4,2,14,
9,2,16,11,3,15,4,1,14,9,2,12
,10,4,14,10,2,12,7,6,15,10,2
,12,8
260 DATA 6,15,6,1,11,6,1,13,
4,2,14,9,2,16,14,3,15,11,1,1
4,9,2,12,10,2,13,7,3,14,10,1
,12,10
270 DATA 2,11,7,2,9,4,3,14,9
,1,9,5,2,9,4,4,8,4,2,9,4,6,7
,4,2,9,4,6,8,4,2,12,5
280 DATA 2,11,7,2,9,4,3,14,7
,1,16,7,2,15,10,4,14,9,2,9,4
,6,7,4,2,9,4,6,8,4,2,12,10
290 DATA 2,11,7,2,9,4,3,16,1
1,1,14,9,2,15,4,2,14,7,2,14,

```

```

9,6,14,11
300 FOR N=1 TO 96 STEP 3 ::
READ T,A,B :: CALL COLOR(A-2
,A-2,1):: CALL COLOR(B-2,B-2
,1):: FOR TT=1 TO T :: CALL
SOUND(-999,S(A),0,S(B),5)::
NEXT TT
310 CALL COLOR(A-2,1,1):: CA
LL COLOR(B-2,1,1)
320 NEXT N :: RESTORE 220 ::
FOR N=1 TO 252 STEP 3 :: RE
AD T,A,B :: CALL COLOR(A-2,A
-2,1):: CALL COLOR(B-2,B-2,1
):: FOR TT=1 TO T :: CALL SO
UND(-999,S(A),0,S(B),5):: NE
XT TT
330 CALL COLOR(A-2,1,1):: CA
LL COLOR(B-2,1,1)
340 NEXT N :: FOR J=5 TO 30
:: CALL SOUND(-999,S(A),J,S(
B),J):: NEXT J :: RESTORE 22
0 :: FOR CH=40 TO 136 STEP 8
:: GOSUB 350 :: NEXT CH ::
GOTO 190
350 CALL MAGNIFY(1):: CALL S
PRITE(@CH/8-4,CH,13*RND+3,20
0,120,-30,RND*20-RND*20):: R
ETURN

```

The Home Computer Magazine, Vol. 4 No. 3, had a program called Elementary Addition and Subtraction, which generates random numbers between 1 and 5 for elementary math practice.

The first time I tried it, it asked me for the answer to 1 + 1. When I answered correctly, it produced another random problem - 1 + 1 again!

This is known as the idiotic computer syndrome, and it helps us to remember that our computers are still no smarter than their programmers!

Fortunately, this bit of idiocy is easy to cure. Try this -

```

100 RANDOMIZE
110 X=INT(5*RND+1)
120 IF X=X2 THEN 110
130 X2=X
140 PRINT X;
150 GOTO 110

```

Do you see how it works? The first time you

get a number, X2 will equal 0 because it has never been given a value. X will be selected as a number between 1 and 5. Let's suppose it is 2. Line 120 compares it with X2; 2 is not equal to 0, so the program continues to line 130, where X2 now picks up the value of 2, then on to print the value, and back to 110. Now, suppose that the random factor in line 110 picks 2 again. Line 120 finds that 2=2, X=X2, and sends the program back to 110 to pick a different number.

If you want to avoid a repeat until after two times, change line 120 to read 120 IF (X=X2)+(X=X3)THE N 110 and add a line 125 X3=X2.

For a longer series without repeating, it might be better to use this method.

```

100 A$="ABCDEFGHJ"
110 FOR J=1 TO 10
120 RANDOMIZE
130 Y=INT(RND*LEN(A$)+1)
140 X=ASC(SEG$(A$,Y,1))-64
150 A$=SEG$(A$,1,Y-1)&SEG$(A$,Y+1,LEN(A$))
160 PRINT X
170 NEXT J
180 GOTO 100

```

That will give you a random series of 1 through 10 and then repeat with a different random series. Adjust the number of letters in the string A\$, and the corresponding "TO" value in 110, for whatever you require.

Several newsletters recently have published articles on the "program that you never run" - because it consists entirely of REM statements!

For instance, you can keep a list of the members of your users group, using their membership number for the program line number,

followed by REM (or ! in XBasic) and their name and address. For a printed list, just LIST the program to the printer. To change someone's address, or to delete a deadbeat who doesn't pay his dues, just edit the program. You can also LIST the program to disk to create a DIS/VAR 80 file which you can then load into TI-Writer and use its editing features, FindString, etc.

The same method can give you a tickler file, or appointment calendar, which is just as good as some rather complex disk filing programs written for this purpose. Just use the month number (1-12) and date (always in two digits, 01-31) for the line number - 1000 !buy birthday present for wife!

```

1009 !wife's birthday!
1010 !apologize to wife for forgetting birthday

```

You can schedule several things in one program line -

```

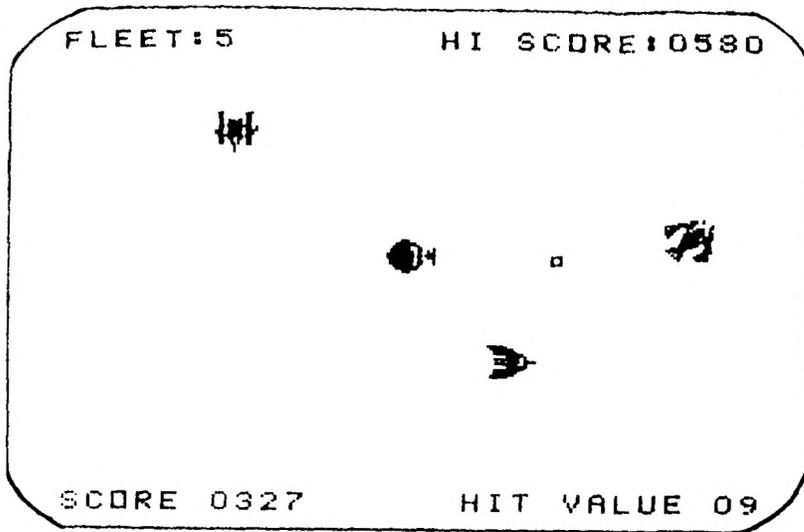
1011 !get haircut/change oil in car/pinch secretary.....
- but it might be better to add an extra digit (0-9) to the line number and schedule separately -
10110 !get haircut
10111 !change oil

```

Then, if something doesn't get done, just use the REDO key to change the line number and reschedule it for another date. You can print out a list of the day's chores by simply LIST "PID":7010-7019 (did you know you could do that?)

MEMORY FULL IN LINE 470

- Jim Peterson



* KLINGON ATTACK *

You control 5 satellites on their lonely vigil deep in outer space, guarding civilizations' far perimeters from alien exploitation.

1 - \$ 15
2 - \$ 20
3 - \$ 25

* KLUUTO EMPIRE *

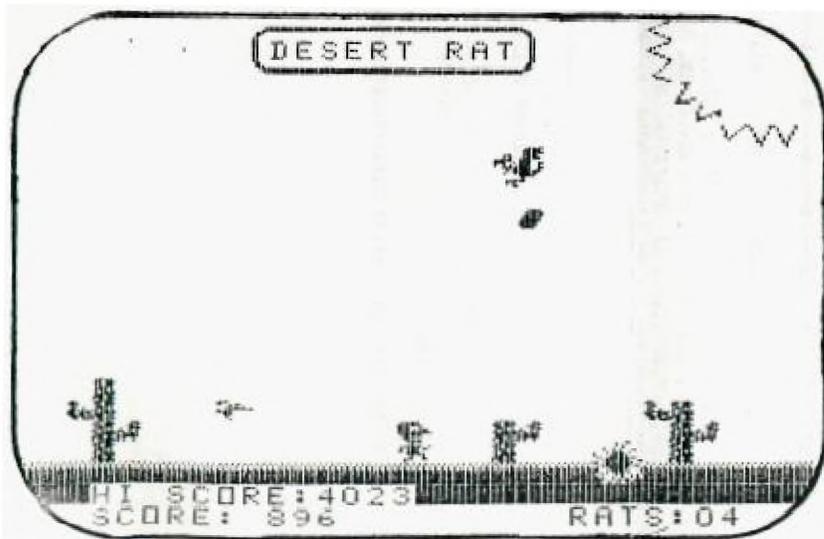
With your fleet of 5 laser armed cruisers, destroy the 6 imperial cities of the insidious Kluutonian Empire, defended only by robot-drone Death Ships.



* DESERT RAT *

To survive the rigors of the desert, you must jump over the tumbling tumble weeds, duck the low flying woodpeckers, and shoot the vulture eggs dropping from above.

You'll need good joysticks for this one.



Arcade Action Software
4122 N. Glenway
Wauwatosa, WI 53222

Arcade Action Software
4122 N. Glenway
Wauwatosa, WI 53222

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WALL STREET ANALYST \$ 40

HOW-TO-USE....package documentation

Detailed instructions for program use
displayed on screen or to printer

TREND.....technical trend analysis

Sets up and analyses index trendlines
moving averages and pace line
Includes trend files for DJ INDUSTRIALS,
S&P 500, NYSE INDEX & Weekly A/D

PORTFQ.....portfolio management

Keeps up-to-date analysis of individual
securities plus the complete portfolio,
records, results and returns

ANAL1.....fundamental security analysis

Corporate balance-sheet statistical
comparison to industry key business ratios,
shows liquidity, efficiency & profitability
Includes files for 50 industries

ANAL2.....income & statistics analysis

Determines yield, PE ratio, volatility,
risk, price correlation & deviation, Alpha,
Beta, coefficient of determination, price
and earnings projections, value analysis,
warrant, option and debenture evaluations

MARKET.....comprehensive market evaluation

Market trend prediction based on current
fundamental, technical, speculative,
economic and monetary data

*** TOUCHDOWN *** \$ 15

Professional Football Prediction Program

- A. Load latest ratings from file
Current ratings with file date are on the disk
or immediately following the program on tape.
- E. Team abbreviations
Abbreviations used in program for brevity,
however, the program will accept the name of the
city or team, and gives prompts for miss-spellings.
- C. League line-ups
Lists entire league by divisions.
- D. League rating order
Lists entire league in descending rating order.
- E. Initialization
Prior to the start of the exhibition season, regular
league play and post-season play-offs, initialization
eliminates momentum and upset factors.
- F. Ratings updated
Each week, game scores are instilled into rating formulas.
- G. Ratings adjusted
Individual rating changes can be made at the option of
program user, and can be used to set up new league ratings.
- H. Save ratings on file
After ratings have been updated or adjusted, they can be
saved on disk or tape for future use.
- I. Predictions
Game score predictions are made based upon present ratings,
home advantage, momentum and upset or bounce back factors.
- J. Prediction order
Weekend predicted scores are arranged in spread order.
Print out options are offered on menu selections B, D & J
Program alteration option for any other league

T. I. BASIC

TI FORTH International
 Information Center
 4122 Glenway Street
 Wauwatosa WI 53122

Tutorials	UG source	Pages	On	Public Domain Disks
Beginning	MSP	3		TI FORTH System Disk
DiskFixer doc.	Edmonton	1	III	FORTH Source Code 'A'
Loops	NewHorizon	1		FORTH Source Code 'B'
Parameters	Dimensions	1		Data I John Volk Rt 1 Bx 291
FileTranV80	Milwaukee	1	III	Data II " " VanBuren AR 72956
Arrays	Milwaukee	3		Data III Intl Info Center
DS-DD	Milwaukee	1	VII	Data IV " " " " "
Autodecimal	Milwaukee	1	III	Data V " " " " "
Stack Use	Kentucky	1		Data VI " " " " "
Customizing	Edmonton	2		Data VII " " " " "
BitMapGraphics	Kentucky	2		Doodles Howie Rosenberg 19 7th Ave
Floating Pt	Kentucky	2	V	Sonnets " " Farmingdale NY 11735
Windowing	Lehigh	3	VI	Graphics/Sound Demo T.I.
System Debugs & New Words		1	V	X-B Loader Tom Freeman L.A. 99-CUG
Grid-Plot doc.	C.A.F.I.G.	2	V	Customized System Disks :
4th-RITE screens selfmade		1	V	System II Intl Info Center
System A documentation		5		System A Gene Thomas 7705 Apache LittleRock AR 72205
				Utility4th Rich Bailey 65A Church Gonic NH 03867

new
 2D FORTH bitmap artist program with
 comprehensive graphics implementation
 2D DOCS DV80 file documentation
 or
 5 pages documentation printout

Data Disk Hv-lites

-- Data I --	-- Data II --	-- Data III --	-- Data IV --
Airplane Shoot	Disassembler	DiskInit	Cosmic Conquest
Battlestar	XB -> Forth	FastCopy	Decompiler
Diamond Draw	Game of Life	Shoot'em Up	File Transfer
Suicide Ships	Breakforth	Number Race	Calendar
Nuke Attack	Micro-jaws	Disk Fixer	Slot Machine
MiniForthWriter	ScreenDump	DSR Peeker	SpeechGeneration
-- Data V --	-- Data VI --	-- Data VII --	
Grid-Plot	Disk Utilities	FastFloatingPoint	
TalkingEditor	Windowing	TerminalEmulator	
BodySnatchers	Alpine Skiing	DS/DD alterations	
4th-Riter	Sketcher	Primes & Factors	
SoundControl	MusicRoutines	3D Graphics	

Customized Disks utilities & options

System II	System A	Utility4th
DiskFixer	PrinterWords	OnDisk Doc.
FileTransfer	64 Editor	ScrDump
Initializer	Decompiler	Initializer
DSR Peeker	Arrays	DISKUtilities
3PassCopier	SoundAccess	EsectorAccess
Catalog	GraphicsWords	DiskCopy
Decompiler	H-Res-ScrDump	PrintCodes
4th-Riter	NewWords	CustomizeInst
ScrDump		NewWords
AutoRepeatKeys		
AutoDecimal		
40or64 Editor		
FIGorRSDD		
X-B Loader		

Doodles....Bit map graphics with documentaion and demos
 Sonnets....Poetry writer disk
 Demc.....Saved Graphics/Sound demo from TI

to cover costs Tutorials \$.10 per page Disks \$3.00

FORTH Manuals now available for \$12.50 from
 Sundisk Software P.O. Box 1650 Warren MI 48090

MILWAUKEE AREA 99-4 USER GROUP
4122 N. GLENWAY
WAUNATOSA, WI 53222



Edmonton 9906
box 11983
Edmonton
Alberta
Canada TSJ-3L1