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Another change  
This month ENCOUNTER  
Tutorial 2nd in series  
Your page for comments

Amstrad software running  
on the Einstein.  
Public Domain software  
We hope to make this  
section a regular.

Einstein inside out

For Ham Enthusiasts  
For Children

Adventure  
Text Can you survive!  
An old favourite  
Reaction Game for Kids!

For M/C programmers, save  
some of the frustration of  
debugging.

The THINGi / Hard Disc

Selecting the next program  
from this one.  
Taking data from one  
program to the next even  
on a reset!

EDITORIAL

Issue Twelve. We've made it. One year on. I hope that you are as pleased as we are that the UKEUG newsletter seems to be a success as it is all due to the support and contributions that we have received from yourselves, keep them coming in, we still need more. For our second year we are hoping to provide a new look newsletter with a more standard layout so that you can turn to your favourite section more easily. One of the additions we hope to make is a list of members on the front cover, so if YOU want to be contacted by other members write to us telling us what you would like printed about yourself, (i.e. Name, Address, Telephone No., interests, or just Name and Address) and we will put YOU on the front page. So that we can monitor this we would like you to let us know if anyone contacts you in response to our front page, as usual it's ALL UP TO YOU.

Many thanks to Keith for his sterling work over the past 9 months whilst he has been editing the newsletter, I only hope that my efforts live up to expectation. I know that Keith has been trying to work on a number of items for publication so look out for them. He is retaining his position as Secretary, so keep sending all offerings, gripes and enquiries to him (He will pass them on to me soon enough).

Jean Skillern is still Membership Secretary and John Raper is still doing a magnificent job of making sure the rest of us do not overspend. Continued next month.

Chris Giles

# The SCRATCHPAD Revealed

Here follows a list of the scratchpad locations and any information we have been able to find out. The scratchpad starts at FB00 and continues into FC00 and a bit.

- FB00 Interrupt vector for CTC 0
- FB02 Interrupt vector for CTC 1
- FB04 Interrupt vector for CTC 2
- FB06 Interrupt vector for CTC 3                   -This is the clock interrupt
- FB08 Interrupt vector for Keyboard
- FB0A Interrupt vector for Analogue to Digital Converter
- FB0C Interrupt vector for Fire Button
- FB0E Interrupt vector for User use (No hardware)
- FB10 Interrupt vector for Printer
- FB12 Interrupt vector for PIO 'B'
- FB14-FB19 Routine to read memory from ROM
- FB1A-FB20 Routine to Block Copy. Used by 'C' command from MOS (up)
- FB21-FB27 Routine to Block Copy. Used by 'C' command from MOS (down)
- FB28-FB2F Routine used by DOS
- FB30 Break Vector
- FB32 Cold Start Vector
- FB34 Warm Start Vector
- FB36 VDP Mode, Also found in initialisation routine in MOS
- FB38 Text Colour. MS nibble foreground, LS nibble background
- FB39 Graphics Colour. As above
- FB3A MOS funtion table vector
- FB3C MOS initialisation vector
- FB3E Flags
- FB3F Cursor Code stored here
- FB40 Prompt character stored here
- FB41 Blink rate
- FB42 Repeat delay
- FB43 Repeat speed
- FB44 Sector size in 256 byte blocks
- FB45 More flags
- FB46 Code of last key pressed
- FB47 Don't Know
- FB48 Don't Know
- FB49 More flags
- FB4A Screen column
- FB4B Screen row
- FB4C Don't Know
- FB4D Don't Know
- FB4E Don't Know
- FB4F Line Length, i.e. 32 or 40 or 80
- FB50 Current Drive
- FB51 Current Track FB52 Current Sector
- FB53 Buffer for Disc in/out
- FB55 Flag to indicate Read or Write
- FB56 ERROR STATUS VALUE
- FB57 Number of tries on reading disc before error
- FB58 Track count 0
- FB59 Track count 1
- FB5A Track count 2
- FB5B Track count 3
- FB5C Store for value at Break Point
- FB5D Location of Break Point
- FB5F V.D.P.Status
- FB60 to FB78 This area used to store the registers when executing a program. The order of storage is: -I,IX,IY,SP,AF',BC',DE',HL',AF,BC,DE,HL,PC.
- FB79 Temporary store for HL
- FB7B Temporary store for SP
- FB7D FB3E Disc information not yet deciphered

FB20 FB21 Time storage area  
 FB22 Flag for interrupts  
 FB23 Pointer for Function key in Video Ram  
 FB24 Pointer to Function key area in Video Ram  
 FB96 Destination address of DRAW TO X  
 FB98 Destination address of DRAW TO Y  
 FB9A X Origin  
 FB9C Y Origin  
 FB9E Polygon Centre Co-ordinate X  
 FBA0 Polygon Centre Co-ordinate Y  
 FBA2 Ellipse Radius X  
 FBA4 Ellipse Radius Y  
 FBA6 Number of sides of Polygon  
 FBA8 DOTON  
 FBA9 DOTOFF  
 FBAA DOTON2  
 FBAB DOTOFF2  
 FBAC Store for dot count for DOTON/DOTOFF  
 FBAD Fill Mode Background=0 Foreground=FF  
 FBAE Fill stack pointer  
 FBEC Stepping rate for disc  
 FEB1 Side flag 0=single 1=double  
 FEB2-FEB4 Don't Know  
 FEB8-FEBF Input Buffer  
 FBEC-FBFF 32 byte buffer for copying to and from VDP  
 FC00 onwards. Interrupt routines and DOS. To be dealt with in future articles. Watch this space for PORT data!!!!!!  
 See article elsewhere in this months mag about initialising interrupts and grabbing data from ports.

Chris Giles

This is a very neat Morse Trainer program by Dave West. Written in XBAS it provides most of the functions required for morse training. The speed change routine still needs some work so if anyone knows the formula for converting Words Per Minute into the correct delay, let us know so that we can pass it on to Dave.

```

1 REM *****
2 REM MORSE TRAINER
3 REM
4 REM BY DAVE WEST
5 REM *****
10 REM
15 REM *** INITIALIZE *****
20 DIM M$(47):FOR X=1 TO 47:
    READ M$(X):NEXT X
40 E=10:P0=125:P1=0:F=1000:S=12
50 PSG 0,P0:PSG 1,P1:PSG 1,0:
    PSG 8,15:PSG 7,127
60 ON ERR GOTO 1000
70 CLS:PRINT " MORSE TRAINER":
    FOR X=1 TO 1000:KY=KBD:
        IF KY<>0 THEN 1000
90 NEXT X:GOTO 9000
95 REM **** SUB ROUTINES *****
100 CH$=INCH$:IF CH$="" THEN 100:
    REM READ KEYBOARD
110 RETURN
120 PSG 7,120:FOR PS=1TO200:NEXT
PSG 7,127:RETURN:REM INVALID BEEP
200 REM PRINT ROUTINE
210 FOR K=1 TO LEN(I$)
220 P$=MID$(I$,K,1):PRINT P$;
230 R=ASC(P$)-43
240 GOSUB 300
250 NEXT K
260 RETURN
300 REM SOUND ROUTINE
320 IF R=-11 THEN FOR Z=1 TO
    4000000/E^4:NEXT Z:RETURN
330 FOR M=1 TO 5
340 SD=VAL(MID$(M$(R),M,1))
350 IF SD=0 THEN 390
360 PSG 7,120:FOR X=1 TO SD^4.5:
    NEXT X
370 PSG 7,127
380 FOR Z=1 TO 20:NEXT Z
390 NEXTM:FORZ=1TO 1000000/E^4:
    NEXT Z:RETURN
400 REM PROSIGN KEY
410 PRINT "
420 PRINT " , , , = Represent AR
    KN AS BT Respectively":PRINT
430 RETURN
1000 REM ** GET CHOICE *****
1010 CLS:PRINT@10,0,"MORSE
    TRAINER"
1020 PRINT@8,1;"
    "
    
```



```

1030 PRINT:PRINT"  press L=ltre,
      F=fgre, A=all":PRINT
1040 PRINT"  press R for
      repeating message":PRINT
1050 PRINT"  press T for morse
      typewriter":PRINT
1060 PRINT"  press P to change
      pitch (";F;"hz)":PRINT
1070 PRINT"  press S to change
      speed (";S;"wpm)":PRINT
1080 PRINT"  press Q to quit"
1090 PRINT@20,18;"";:GOSUB 100
1100 IF CH$="L" OR CH$="F" OR
      CH$="A" THEN 2000
1110 IF CH$="T" THEN 3000
1120 IF CH$="R" THEN 4000
1130 IF CH$="P" THEN 5000
1140 IF CH$="S" THEN 6000
1150 IF CH$="Q" THEN 7000
1160 GOSUB 120:GOTO 1000
2000 REM RANDOM FIVE CHR GROUPS
2010 CLS:PRINT"
      RANDOM GROUPS"
2020 PRINT"<RET> to quit or any
      other to hold"
2021 IF CH$="A" THEN GOSUB 400
2030 T$="^./0123456789:;<=>?@AB
      CDEFGHIJKLMNOPQRSTUVWXYZ"
2035 GP=0
2040 I$="":FOR X=1 TO 5
2045 GP=GP+1:IF GP>=31 THEN
      PRINT" ";:GP=0
2050 IF CH$="L" THEN
      R$=MID$(T$,RND(26)+22,1)
2060 IF CH$="F" THEN
      R$=MID$(T$,RND(10)+5,1)
2070 IF CH$="A" THEN
      R$=MID$(T$,RND(47)+1,1)
2080 IF R$="^" THEN 2050
2090 I$=I$+R$
2100 KY=KBD:IF KY=13 THEN 1000
2110 IF KY<>0 THEN GOSUB 100
2120 NEXT X :I$=I$+" "
2135 GOSUB 200
2140 GOTO 2040
3000 REM *** TYPE MORSE *****
3010 CLS:PRINT"TYPE FOR
      IMMEDIATE MORSE OUTPUT":
      PRINT" PRESS <RET> TO QUIT "
3020 GOSUB 400
3030 GOSUB 100
3040 LET R=ASC(CH$)-43
3050 IF R=-30 THEN 1000
3060 IF R=-11 THEN PRINT" ";:
      GOTO 3030
3070 IF R=2 OR R<1 OR R>47 THEN
      GOSUB 120
3080 PRINTCH$;:CH$=""
3090 GOSUB 300:GOTO 3030
4000 REM * REPEATING MESSAGE **
4010 CLS:PRINT"      REPEATING
      MESSAGE"
4020 GOSUB 400:
      PRINT"PRESS <RET> TO QUIT"
4030 INPUT "ENTER MESSAGE ";I$
4040 FOR K=1 TO LEN(I$)
4050 R=ASC(MID$(I$,K,1))-43
4060 IF R=-11 THEN 4080
4070 IF R=2 OR R<1 OR R>47
      THEN GOSUB 120
4080 NEXT K
4090 FOR K=1 TO LEN(I$)
4100 PRINT MID$(I$,K,1);
4110 R=ASC(MID$(I$,K,1))-43:
      GOSUB 300
4120 KY=KBD:IF KY=13 THEN 1000
4130 NEXT K
4140 GOTO 4090
5000 REM ** CHANGE PITCH *****
5010 CLS:PRINT"
      PITCH CHANGE"
5020 INPUT "INPUT frequency
      500 - 3000hz ";F
5030 IF F<500 OR F>2000 THEN5020
5040 TP=2E6/(16*F):
      P1=INT(TP/256):P0=TP-P1
5050 PSG 0,P0:PSG 1,P1
5060 GOTO 1000
6000 REM ** CHANGE SPEED *****
6010 CLS:PRINT"
      SPEED CHANGE"
6020 INPUT "INPUT speed in wpm
      (4 - 20)";S
6030 IF S<4 OR S>20 THEN 6020
6040 GOTO 1000
7000 REM ***** QUIT *****
7010 CLS:END
8000 REM *** MORSE DATA *****
8010 DATA 131313,,111111,31131,
      33333,13333,11333,11133,11113,
      11111,31111,33111,33311,33331,
      33311,313131,13131,31113,31331
8020 DATA 113311,13111,13,3111,
      3131,311,1,1131,331,1111,11,
      1333,313,1311,33,31,333,1331,
      3313,131,111,3,113,1113,133,3113
8030 DATA 3133,3311
9000 CLS:PRINT"      MORSE
      TRAINER DEMO"
9010 I$="A PROGRAM WRITTEN BY
      DAVE WEST 1 JUL 86."
9020 GOTO 4090

```

#### Game to Game

A neat little routine as the last line in a program instead of STOP or END. With a little experimentation it could be expanded for all drives and maybe cover .COM files as well.

```
10 CLS:DIR"*.*XS":INPUT"ENTER NAME OF PROGRAM TO RUN ";A$:CHAIN A$
```

MONEY by P. Heferman

This is a super educational program all about money with good graphics and really does get the children adding and subtracting.

```

10 REM MONEY
20 LETG=3
30 CLS
40 LETL=164
50 LET T=0
60 IFA$="Y"THEN GOTO1110
70 LETE=27
80 LET A=24
90 LET B=20
100 LET C=24
110 LET D=24
120 CLS
130 PRINT@5,13;"WELCOME TO THE
    MONEY PROGRAM"
140 REM
150 TCOL10
160 PRINT@3,21;"1p 1p 1p 1p 1p
    1p 1p 1p 1p 1p ="
170 TCOL15
180 GCOL10
190 ELLIPSEA,B,7
200 LETA=A+18
210 IFA>200THEN 230
220 GOTO 190
230 TCOL 14
240 PRINT@3,17;"5p 5p ="
250 TCOL15
260 GCOL14
270 ELLIPSE C,52,9
280 LETC=C+30
290 IF C>80 THEN 310
300 GOTO 270
310 TCOL10
320 PRINT@ 3,9;"2p 2p 2p
    2p 2p ="
330 TCOL15
340 GCOL10
350 ELLIPSE D,116,10
360 LETD=D+30
370 IF D>160 THEN 390
380 GOTO 350
390 TCOL 14
400 PRINT@3,5;"10p 10p 10p
    10p 10p ="
410 TCOL15
420 GCOL14
430 ELLIPSE E,148,12
440 LET E=E+36
450 IF E>180 THEN 470
460 GOTO 430
470 TCOL 14
480 REM
490 REM
500 REM POLY 7,220,148,16
510 PRINT@35,5;"";
520 INPUT X
530 IF X<>50 THEN GOTO 550
540 IFX=50THEN610
550 SPEED155
560 PRINT@35,5;"WRONG"
570 SPEED 100
580 PRINT@35,5;" "
590 SPEED255
600 GOTO 510
610 PRINT@35,5;" "
620 GCOL 14
630 POLY 7,220,148,16
640 TCOL 14
650 PRINT@35,5;"50p"
660 PRINT@31,9;"";
670 INPUTY
680 IF Y=10THEN760
690 IF Y<>10THEN700
700 SPEED155
710 PRINT@31,9;"WRONG"
720 SPEED100
730 PRINT@31,9;" "
740 SPEED255
750 GOTO660
760 TCOL 14
770 GCOL 14
780 PRINT@31,9;" "
790 ELLIPSE195,116,10
800 PRINT@31,9;"10p"
810 PRINT@15,17;"";
820 INPUT Z
830 IF Z<>10THEN850
840 IF Z=10THEN900
850 SPEED155
860 PRINT@15,17;"WRONG"
870 PRINT@15,17;" "
880 SPEED255
890 GOTO 810
900 PRINT@15,17;" "
910 GCOL14
920 TCOL14
930 ELLIPSE98,52,12
940 PRINT@15,17;"10p"
950 PRINT@35,21;"";
960 INPUT Y
970 IF Y<>10THEN1060
980 IFY=10THEN990
990 PRINT@35,21;" "
1000 ELLIPSE224,20,12
1010 PRINT@36,21;"10p"
1020 SPEED 100
1030 PRINT@ 4,13;"WELL DONE NOW
    LET'S DO SOME MORE"
1040 SPEED 255
1050 CLS:GOTO1110
1060 SPEED155
1070 PRINT@35,21;"WRONG"
1080 PRINT@35,21;" "
1090 SPEED 255

```

```

1100 GOTO950
1110 LETR=RND(49)+51
1120 IFR>97THEN R=97
1130 LETQ=R
1140 IFR>=50THENGOSUB1270
      :ELSE1170
1150 IFR=0THEN1730
1160 GOTO1140
1170 IFR>=10THEN GOSUB1370
      :ELSE1200
1180 IFR=0THEN1730
1190 GOTO1170
1200 IFR>=5THEN GOSUB1460
      :ELSE1230
1210 IFR=0THEN1730
1220 GOTO1200
1230 IFR>=2THENGOSUB1550
1240 IF R=0THEN1730
1250 IFR=1THENGOTO1640
1260 GOTO1230
1270 LETR=R-50
1280 TCOL14:GCOL14
1290 LETP=P+1
1300 LETT=T+30
1310 IFP=2THENT=50
1320 POLY 7,T,L,16
1330 LETA=(INT(T/6)-1)
1340 PRINT@A,G;"50p"
1350 TCOL15
1360 RETURN
1370 LETR=R-10
1380 TCOL14
1390 LETP=P+1
1400 LETT=T+30
1410 ELLIPSE(T+3),L,12
1420 LETA=(INT(T/6)-1)
1430 PRINT@A,G;"10p"
1440 TCOL15
1450 RETURN
1460 LETR=R-5
1470 TCOL14
1480 LETP=P+1
1490 LETT=T+30
1500 ELLIPSE(T-1),L,9
1510 LETB=(INT(T/6)-1)
1520 PRINT@B,G;"5p"
1530 TCOL15
1540 RETURN

1550 LETR=R-2
1560 GCOL10:TCOL10
1570 LETP=P+1
1580 LETT=T+30
1590 ELLIPSET,L,10
1600 LETA=(INT(T/6)-1)
1610 PRINT@A,G;"2p"
1620 GCOL14:TCOL15
1630 RETURN
1640 LETR=R-1
1650 GCOL10:TCOL10
1660 LETP=P+1
1670 LETT=T+32
1680 ELLIPSE(T+3),L,7
1690 LETA=INT(T/6)
1700 PRINT@A,G;"1p"
1710 GCOL14:TCOL15
1720 GOTO 1730
1730 TCOL4,15:PRINT@0,8;
      MUL$(" ",40):TCOL15,4
1740 IFG=17THEN TCOL4,15
      :PRINT@0,20;MUL$(" ",40)
      :TCOL15,4
1750 IFG=17THEN PRINT@2,20;"YOU
      SPENT";M"p NOW YOU ONLY HAVE";
      K"p":GOTO1910
1760 PRINT@6,8;"YOU HAVE";Q"p"
1770 PRINT@6,10;"HOW MUCH DO YOU
      WANT TO SPEND";
1780 INPUTM
1790 PRINT@6,11;"HOW MUCH SHOULD
      BE LEFT";
1800 INPUTO
1810 IFM>QGOTO1770
1820 IFM<1THENGOTO1770
1830 LETR=Q-M
1840 LETK=R
1850 IFK=0THENPRINT@6,12;"WELL
      DONE"
1860 IFK<>0THENPRINT@6,12;"WRONG"
1870 LETL=51
1880 LETT=0
1890 LETG=17
1900 GOTO1140
1910 PRINT@4,22;"DO YOU WANT TO
      TRY AGAIN(Y/N)";
1920 A$=INCH$
1930 IFA$="Y"THEN CLS :GOTO 10
1940 IFA$="N"THEN CLS:END

```

#### THE ULTIMATE BREAK (Chris Giles)

Now for all you M/C addicts who find that every now and again your amazing new routine doesn't work quite like what it ought to and hangs! try this.

To provide a BREAK in a program which has gone into a loop first revector an interrupt of your choice to location 38Hex. Then enable it. I have used the Fire Button. To enable it set BIT 0 of port 25H is zero. To Disable, make it a 1.

Written and assembled on ZEN. This routine Enables the Fire Button interrupt and executes a a jump to 0038H if the Button is pressed. It also revector the interrupt location. When assembled use MOS 'G' to initialise, then whenever the fire button is pressed nomatter what is being done it will break and give you the break location. Any other Interrupt could be have been used.

```
INT:EQU 0FBOCH
ORG E000H
LOAD E000H
LD HL,START;GET INT VECTOR
LD (INT),HL;PLACE IT
XOR A;MAKE SURE BIT 0 IS 0
OUT (25H),A;ACTIVATE INTERRUPT
RST 38H;GO TO BREAK
;This can be changed to your
;own location
START: DI;Prevent other interrupts
LD (0FB76H),HL;Save HL
POP HL;Get Program Counter
PUSH HL;Save it
PUSH DE;Save registers
PUSH BC
PUSH AF
RST 8
DEFB 0A7H
```

```
LD A,"@"
RST 8
DEFB 9EH
RST 8
DEFB 0A8H
EX DE,HL;Store HL (PC)
LD HL,6;Eight locations to display
ADD HL,DE;Set end location
EX DE,HL;Get it right for TABULATE
LD C,8;For Tabulate
RST 8;TABULATE
DEFB 93H
POP AF;Restore registers
POP BC
POP DE
LD HL,(0FB76H);Get HL from store
RST 38H;BREAK
END
```

SCIENCE and SORCERY - THE ADVENTURER'S COLUMN  
( DAMMIT I'VE DIED AGAIN!!)

ENCOUNTER

I have a good deal of admiration for Solo Software. They are one of the few software houses to produce software for Albert. Not just games, but useful utilities such as their Programmers Kit. As far as I am aware, this is their only venture into adventure games. If any of you read my review of Quest and Castle Quest, you will remember that I am not particularly impressed with adventures written in Basic. They tend to be slow, and I have yet to come across one with anything approaching a sophisticated parser.

Having said that, Encounter is one of the better Basic Adventures I have come across. It has a reasonable vocabulary, and an interesting enough plot. The location descriptions are sparse - one or two sentences only. The instructions that come on the disc insert are short and to the point - telling you to first load BASIC, and then to RUN"LOADER. This gives you a menu from which you can run one of the two games on the disc, or to end and return to BASIC. If you are wondering why I am not reviewing the other game, 'Tombs of Karnak', this is because I do not consider it to be an adventure game, it is a very simple maze game. Once you have selected Encounter it is loaded in from the disc. You are presented with instructions which explain something about the type of vocabulary the game understands, hints that some knowledge of basic chemistry would be useful, and explains that the aim of the game is for you to rescue a young girl who has been kidnapped, and is being held to ransom in a house. You commence the game in a market square. Time must be spent at first collecting various useful objects, and the ingredients for making gunpowder (hence the need for elementary chemistry knowledge). Then it's into the house (avoiding an unfriendly alsation) and to the rescue. The author of the game evidently has a sense of humour judging by some of the replies the gam gives. It also understands quite a number of swear words, so be warned. Some of the games faults are the lack of a facility to save the current position, and the rather irritating way the number of moves is incremented even when you give the game an instruction it does not understand. As it is written in BASIC, the program can be adapted to suit the individual, for example, the maximum number of objects you can carry is 7. But by changing the count check against variable "IC" at around line 15000 you can increase this number as high as you like. You could also have a look at the code to help you if you get stuck. Not very honest I know, but useful if you are having problems. I don't think the game is worth the current price of '14.95, even though the cost of the disc is included, but I would recommend it

as a game for the inexperienced if the price was reduced.

In the July issue of the Newsletter James Coyle asked some questions about the game "PLANETFALL". He wanted to know how to get past the MURAL, and where to find the RAIATION SUIT and the REACTOR ACCESS CARD. Below are the answers to your questions James. I have given the answers using the translation program listed in the same issue.

BLF WLM'G MVVW GSV IZWRZGRLM HFRG LI GSV IVZXGLI VOVEZGLI ZXXVHH XZIW GL URMHRHS GSV TZNV. GSV NFIZO DROO YV IVNLEW DSVM BLF SZEZ XLNKOVGWV Z MFNYVI LU GZHPH. WLM'G DLIIB ZYLFGR.

What you probably need at this point of the game is the miniaturization card. To get this : GZPV UOLBW GSILFTS GSV YRL-OLXP WLLI RM GSV OZY. SV HSLFOW GSVM HFTTVHG GSZG BLF LKVM GSV WLLI. DVM SV WLWH GSRH LKVM GSV WLLI ZMW XOLHV RG RNNVWRZGVOB. DZRG FMGRO BLF SVZI UOLBW PMLXPRMT ZMW GSVM LKVM GSV WLLI ZMW XOLHV RG ZTZRM. R SLKV BLF GSRMP RG RH DLIGS GSV HZXIRURXV!

There is currently a certain amount of confusion at present over the status of Infocom games. The new U.K. distributors(Activision) informed me that they were no longer going to support the Einstein by converting games for our machine. However, I have recently heard that with the introduction of the new Einstein they have decided to continue with support after all. I will be contacting Activision in the near future and I hope to have this story confirmed soon.

Well, that's about it for now, except to let you know that the new address for any letters, tips, queries etc is :

Tony Stansfield 8 Coltsfoot Drive, Altricham, Cheshire

And now an adventure game for you all to type in and run yourselves. Written in BBCBASIC you may be able to get the gist of it whilst entering it. (We really ought to send Tony a copy to review.)

```

10 REM *****
20 REM *
30 REM * The Wizard's Quest *
40 REM *
50 REM *****
60 CLS:PRINT TAB(10,2);"The Wizard's Quest."
70 PRINT TAB(4,10);"An adventure game."
80 REM ** common messages **
90 Y$="O.K."
100 DIM Q$(80),S$(80,4),G$(30),B$(30),N$(30),N%(30),V$(4),A(30)
105 SH=0:SL=0:SI=0:SJ=0:SN=0:SK=0:SF=0:SB=0:SG=0:SA=0:SC=0:SD=0:
    SE=0:SM=0:SO=0:SP=0
110 REM ** read the data for the locations **
120 FOR X=1 TO 80:READ Q$(X)
130 FOR Y=1 TO 4:READ S$(X,Y)
140 NEXT Y,X
150 DATA standing in a small gully at the bottom of a sheer cliff
    face.,0,0,2,0
160 DATA on a narrow footpath between two steep mountains.,0,0,3,1
170 DATA at the top of a small wooded hill. A narrow footpath leads
    west into the mountains.,0,6,0,2
180 DATA on a dirt track which winds its way through a well tended
    garden.,0,9,5,0
190 DATA walking through a garden which is full of beautiful
    flowers.,0,0,6,4
200 DATA by a garden gate. The path north leads out of the garden
    into open countryside.,3,11,7,5
210 DATA outside a small cottage. A sign on the door reads 'Wizard
    out at the moment. Please leave treasures inside'.,0,0,0,6
220 DATA on the edge of a marsh. An old sign here reads 'Danger...do
    not proceed west'.,0,0,9,0
230 DATA by a large wooden gate. Strange runes are inscribed on
    it.,4,0,10,8
    
```



- 240 DATA on the shores of a small lake. A small island lies in the middle.,0,0,0,9
- 250 DATA by the compost heap. A few small beanstalks are growing at the top of the heap.,6,0,0,0
- 260 DATA inside the Wizard's cottage. A small fire burns in the grate.,0,0,0,0
- 270 DATA outside a gloomy castle. There appears to be no way in.,0,0,14,0
- 280 DATA on a footpath lined with dense shrubs.,0,0,15,13
- 290 DATA on a small landing stage. A few boats are moored here.,0,0,16,14
- 300 DATA at the entrance to a disused graveyard. A rusty chain is padlocked around the two metal gates.,0,0,0,15
- 310 DATA standing next to an old gravestone. It's engraved with the message 'To Martha....Please help me!!!',16,0,18,19
- 320 DATA standing on a small lawn with tall hedges on three sides.,0,0,0,17
- 330 DATA in a small quadrangle full of ancient tombstones.,0,20,17,0
- 340 DATA by the East gate. A howling wolf guards the way west.,19,28,21,0
- 350 DATA outside a small chapel. The door is closed at the moment. A large lever protrudes from the wall.,0,0,0,20
- 360 DATA inside an ornate chapel. The door has closed behind me.,0,23,0,0
- 370 DATA next to the altar. There is nobody here.,22,0,0,0
- 380 DATA outside the graveyard. A path leads south and down from here.,0,27,20,0
- 390 DATA in the living room. The old woodcutter is asleep in a chair.,26,0,0,0
- 400 DATA in a small kitchen. The sink is full of dirty pots.,0,25,0,0
- 410 DATA next to a large rock which blocks the entrance to a cavern. Strange runes are engraved on it.,24,0,0,29
- 420 DATA in a small courtyard full of old bones. The only way out is north.,20,0,0,0
- 430 DATA outside a wooden cottage. A sign on the door reads 'Woodcutter for Hire.',0,0,27,0
- 440 DATA in a wide passage lit by a strange green glow coming from the south.,0,34,31,0
- 450 DATA standing in the entrance to the Carverns of the Xarda.,27,0,32,30
- 460 DATA in a wide east-west passage. A smaller passage leads south and down from here.,0,36,33,31
- 470 DATA in an enormous cavern which is lined with grotesque faces.,0,0,0,32
- 480 DATA in the 'Cavern of Light'. A large crystal hangs in the centre and sends rays of green light dancing along the walls.,30,0,0,0
- 490 DATA on a narrow rope bridge which spans a deep underground gully.,0,41,36,0
- 500 DATA in a small cavern. There is a tunnel high above me leading east. A large metal ring hangs from the ceiling next to the tunnel.,32,0,0,35
- 510 DATA in a gloomy tunnel which looks down into a small cavern. There is a rope hanging down from here.,0,0,38,0
- 520 DATA in the 'Room of Many Faces'. The walls are lined with mirrors which reflect thousands of images of my face.,0,0,0,37
- 530 DATA at the end of a passage leading into the mountain. The view over the valley is magnificent.,0,0,40,0
- 540 DATA in a narrow east-west passage lit by a beam of daylight.,0,0,41,39
- 550 DATA in a narrow east-west passage. To the north lies a rope bridge which stretches across a deep ravine.,35,0,42,40

- 560 DATA at the edge of the bottomless pit. A drawbridge can be seen on the southern side.,0,0,0,41
- 570 DATA in a chamber full of furniture built for someone who must be extremely small.,0,0,44,0
- 580 DATA at the end of a wide passage. An evil ghost stands guard and prevents me passing south.,0,0,45,43
- 590 DATA in a wide east-west passage lit by torches high above my head.,0,0,46,44
- 600 DATA on a wooden drawbridge.,42,0,0,45
- 610 DATA in the crater of an extinct volcano.,0,52,48,0
- 620 DATA in a small passage. Daylight pours into the passage from an opening to the west.,44,0,0,47
- 630 DATA in the branches of a giant beanstalk. There is a small cave entrance to the east.,0,0,50,0
- 640 DATA at the entrance to a gloomy passage. The beanstalk prevents much light entering.,0,55,51,49
- 650 DATA in the 'Hall of the Evil Balrog'. The walls are all scorched.,0,56,0,50
- 660 DATA on a footpath leading between the centre and the top of the crater.,47,0,53,0
- 670 DATA at the top of the crater. A path leads east and down the mountainside.,0,0,54,52
- 680 DATA on a path leading down the mountainside. I can see a cave entrance in the cliff high above my head. The soil here is very fertile!,0,58,0,53
- 690 DATA in the nest of the Balrog. Three enormous eggs lie in the centre.,50,0,0,0
- 700 DATA in the Balrog's lair. A tunnel leads south but the heat and smell coming from it are too much for me!,51,0,0,0
- 710 DATA outside the 'Tower of Darkness'. The entrance is blocked by a pile of rubble.,0,0,58,0
- 720 DATA on a bracken covered hillside.,54,0,59,57
- 730 DATA by the 'West Gate of Jadir'. Two vicious hobgoblins stand guard.,0,0,0,58
- 740 DATA in a field of golden corn.,0,66,61,0
- 750 DATA on a large strip of concrete. To the north lies the West Gate.,59,0,62,60
- 760 DATA in an amphitheatre. A giant flexes his muscles at the far side.,0,0,0,61
- 770 DATA in side the bronze statue. A two-headed lizard with halitosis peers down at me from above.,0,0,0,0
- 780 DATA on the banks of a river. It is too deep here to cross. A seventy foot bronze statue of the god Joliar stands here.,0,67,65,0
- 790 DATA on the banks of a shallow river. It looks safe to cross here.,0,0,66,64
- 800 DATA in a field full of grazing cows.,60,0,0,65
- 810 DATA in a farmyard. An old dog sleeps in the shade of the haystack.,64,72,0,0
- 820 DATA on the banks of a shallow river. A sign here reads 'Danger Quicksand....don't go west!'.0,0,69,0
- 830 DATA outside an old barn. A path leads west. An old tramp blocks my way in.,0,0,0,68
- 840 DATA inside the old barn. A rickety ladder leads up into the hayloft.,0,0,0,0
- 850 DATA in the hayloft. A cat lies in the hay sleeping.,0,0,0,0
- 860 DATA outside an old farmhouse. The door is locked and there is no way in. A footpath leads west into the forest.,67,0,73,0
- 870 DATA in a dark and gloomy forest.,73,76,74,72
- 880 DATA in a dark and gloomy forest.,74,77,74,73
- 890 DATA at the west end of a small valley.,0,78,79,0
- 900 DATA in a dark and gloomy forest.,73,76,77,76
- 910 DATA in a dark and gloomy forest.,74,77,78,76

```

920 DATA in a small clearing. The way north leads into open
    countryside.,75,0,0,77
930 DATA at the far end of the valley. A metal grate is set into a
    concrete slab in the ground here.,0,0,0,75
940 DATA in a small hole under the ground. It is full of soft
    cushions.,0,0,0,0
950 REM ** Read the data for the objects **
960 FOR X=1 TO 30:READ G$(X),B$(X),N$(X):N%(X)=X:NEXT
970 DATA a small beanstalk,11,beanstalk,a can of oil,12,oil,a small
    key,1,key
980 DATA a vacuum cleaner,26,vacuum,a glass vase,25,vase,a pair of
    rubber gloves,26,gloves
990 DATA a magic wand,23,wand,a bottle of rum,25,rum,a book of
    spells,28,book,a gleaming sword,9,sword
1000 DATA "",24,"",a plie of leaves,24,leaves,a menacing
    vampire,33,vampire
1010 DATA a wooden crucifix,22,crucifix,a giant slug,35,slug,a jar of
    salt,38,salt
1020 DATA a ** GOLD NUGGET **,56,gold,a ** BAR OF SILVER **,71,
    silver,a ** DIAMOND **,80,diamond
1030 DATA a ** JEWELLED CASKET **,63,casket,a giant,62,giant,a flame
    thrower,55,flame
1040 DATA a crowbar,63,crowbar,a row of three buttons,64,buttons,a
    friendly dog,54,dog
1050 DATA an angry farmer,72,farmer,"",72,"",a ** PEARL NECCKLACE
    **,43,pearl
1060 DATA a ** RUBY **,39,ruby,a ** PLATINUM BAR **,57,platinum
1070 REM ** set starting position and score **
1080 P%=7:S%=0:CLS
1090 REM ** main control loop **
1100 REM
1110 PRINT:PRINT "I am :-":PRINT Q$(P%)
1120 REM ** check score **
1130 GOSUB 2000
1140 REM ** describe directions **
1150 A$="":IF S%(P%,1)>0 THEN A$="North"
1160 IF S%(P%,2)>0 AND LEN(A$)>0 THEN A$=A$+",South":ELSE IF
    S%(P%,2)>0 THEN A$="South"
1170 IF S%(P%,3)>0 AND LEN(A$)>0 THEN A$=A$+",East":ELSE IF
    S%(P%,3)>0 THEN A$="East"
1180 IF S%(P%,4)>0 AND LEN(A$)>0 THEN A$=A$+",West":ELSE IF
    S%(P%,4)>0 THEN A$="West"
1190 IF (P%=69 AND SH=1) OR P%=7 OR P%=21 OR P%=29 OR P%=64 THEN
    A$=A$+",In"
1200 IF P%=12 OR P%=63 THEN A$="Out":ELSE IF P%=22 OR P%=25 THEN
    A$=A$+",Out"
1210 IF P%=70 THEN A$="Up,Out":ELSE IF P%=80 THEN A$="Up"
1220 IF P%=54 AND SL=1 THEN A$=A$+",Up"
1230 IF P%=37 OR P%=49 OR P%=79 THEN A$=A$+",Down":ELSE IF P%=71 THEN
    A$="Down"
1240 IF A$="" THEN A$="nowhere obvious."
1250 PRINT:PRINT "I can go :-":PRINT A$
1260 PRINT
1270 REM ** describe the objects **
1280 E=0:FOR T=1 TO 30
1290 P=0:IF B$(T)=P% THEN P=1
1300 IF P=1 THEN 1320
1310 NEXT T:GOTO 1340
1320 PRINT:IF E=0 THEN PRINT "Things I can see"
1330 PRINT G$(T):E=1:GOTO 1310
1340 PRINT:INPUT "What should I do now?";Z$
1350 REM ** analyse the input and act on it **
1360 B$=LEFT$(Z$,2):C$=LEFT$(Z$,3):D$=LEFT$(Z$,4)

```

### THE ALTERNATIVE EINSTEIN

Allow me to give you a problem and then I will explain our solution.

You are a consultant working for a partnership that has been tasked by a client to provide a computer which will assist their consultants to sell corporate pension and investment plans. They have no real computer knowledge but they have drawn up a list of essential criteria;

1. Portable or trans-portable.
2. Full colour graphics.
3. Uses television and large screen video and not a monitor
4. Storage facilities for client's data.
5. 80 column printer (silent if possible).
6. Prestel/viewdata facility.
7. Costs less than £1000-00.

As our company was to develop the software we added a few more requirements, namely;

1. CPM or MSDOS compatibility.
2. Good 'off the shelf' programs available.
3. Compiler available for BASIC
4. If possible 16 bit as large number crunching requirement for actuarial data.
5. Must be extremely reliable as systems are for 15 offices in both the UK and Germany.

We were presented with this problem in November 1984 and my first reaction was 'you have got to be joking a £1000-00.' But I was tasked with investigating the current market for a possible solution. 32 portable and trans-portable systems later I knew exactly what I knew at the start of the exercise - no such system available. Not one of the systems I investigated could even drive a colour television set. The only system that came close cost £3650-00.

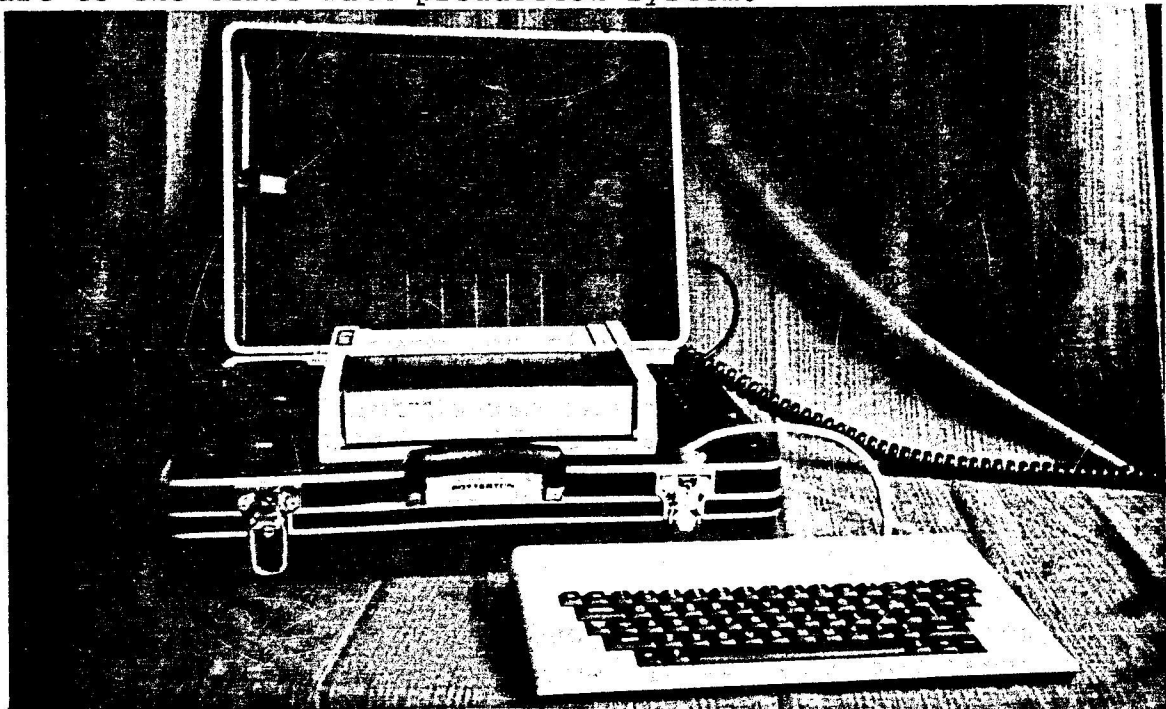
The next suggestion was that I designed a completely new computer but with an order for only 150 systems, potential of 1000 if trial went OK, this was out of the question. We completed a limited market research survey to see if there was a slot in the industry for such a portable system. We decided that there was no market in the home/small business sector but there was a slight possibility as a sales aid within large companies. The cost of launching into such a market added to the research and development cost, in both time and materials, would prove impractical to a small company like ours.

The next suggestion was that we considered taking an existing computer, modify and re-package it so that it became portable. Good idea but which system. I was tasked with looking at the 'home market' for a possible solution - not very impressed. I then, by chance, met representatives of Tatung in a car park on the M1 (that's another story). They convinced me that I should look at the Einstein computer. Its specification looked good and it had a major advantage over all the others, namely British designed and British built. This meant that, should I have any problems, I could have face to face meetings with both hardware and software engineers.

It was obvious that there is no way the Einstein can be classed as a portable computer, particularly as we intended to add an 80 column printer. So we decided to design our own briefcase in which to house all our hardware systems.

Plastics and forming was a whole new world that was as full of jargon as the computer industry. The only difference being that the plastics world deliver parts even later than the computer industry. The case and insert are vacuum formed from black ABS which has a very good strength to weight ratio. The case measures 20" by 14" by 6" and when ready for use it weighs 18lbs. The lid is detachable and has space for documents and manuals etc. It took months of meetings and discussions to produce the final product and allow our engineers to try and manufacture the first transportable Einstein.

The picture below is the final product which took 14 months from start to the first full production system.



The computer specification is as for the Einstein and the printer above is the HP Thinkjet, we can fit the cheaper Brother HR5 Thermal.

What have we learnt about the Einstein that could be of advantage to you.



## Hardware.

1. The computer is extremely reliable even when consultants throw it into cars.
2. The power unit is capable of driving 4 disk drives and a printer as well as the computer.
3. The Einstein has more standard features than any other computer we studied. This means that we have only really scratched the surface of the potential development and utilisation.

## Software.

1. Programs using large areas of RAM must incorporate 'garbage collection' routines or Memory full errors occur
2. Full account must be taken of the variable register when large number crunching programs are developed. I reduced the running time of a program from 7 mins 21 secs to 1 min 11 secs by addressing this problem.
3. Compiler is good but the edition I have has 3 limitations, namely;
  - a. Will not compile Definable functions.
  - b. Will not compile Print £0 without a space between the word Print and the hash.
  - c. Will not compile the SIZE command.

These are extremely minor limitation and have not caused any real problems.

We now have manufactured 150 systems and they are deployed throughout the UK and Germany. We have developed a couple of other Einstein based systems, namely

1. 4 disk Einstein. We have modified the front of the Einstein to allow 4 disk drives to be fitted. The speaker has been removed to the back of the computer. Apart from the advantages of 4 drives we have developed a program that will backup 3 disks at a time. We use this for the mass copying of actuarial data disks for our client.
2. Telephone Logging System. We are developing a computer that will log all telephone calls, by extension and department.

We have developed an extremely good working knowledge of the Einstein and so if you do have any problems perhaps we could help you.

One final note. Market research has got it wrong again because it now appears that there is a market for our portable with the home user/small business.

Ron Morris  
Technical Director  
Alternatives of Lincoln Limited

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1370 PRINT CHR$(7):CLS
1380 IF C$="out" OR D$="go o" THEN GOSUB 1800
1390 IF C$="pra" THEN GOSUB 1870
1400 IF C$="in" OR D$="go i" THEN GOSUB 1930
1410 IF (B$="n" OR D$="go n")AND S%(P%,1)>0 THEN P%=S%(P%,1):PRINT
Y$:ELSE IF (B$="n" OR D$="go n") THEN PRINT "I can't do that!"
1420 IF (B$="s" OR D$="go s") AND S%(P%,2)>0 THEN P%=S%(P%,2):PRINT
Y$:ELSE IF (B$="s" OR D$="go s") THEN PRINT "I can't do that!"
1430 IF (B$="e" OR D$="go e") AND S%(P%,3)>0 THEN P%=S%(P%,3):PRINT
Y$:ELSE IF (B$="e" OR D$="go e") THEN PRINT "I can't do that"
1440 IF (B$="w" OR D$="go w") AND S%(P%,4)>0 THEN P%=S%(P%,4):PRINT
Y$:ELSE IF (B$="w" OR D$="go w") THEN PRINT "I can't do that!"
1450 IF C$="sco" THEN PRINT "You haved scored ";S%;" out of ten."
1460 IF C$="get" OR C$="tak" OR C$="gra" THEN GOSUB 2130
1470 IF C$="inv" THEN GOSUB 2300
1480 IF C$="dro" OR C$="lea" OR C$="put" THEN GOSUB 2370
1490 IF C$="wea" THEN GOSUB 2460
1500 IF C$="pul" THEN GOSUB 2520
1510 IF C$="wav" THEN GOSUB 2560
1520 IF C$="pad" THEN GOSUB 4150
1530 IF C$="rea" THEN GOSUB 2670
1540 IF C$="say" OR C$="tal" OR C$="rep" THEN GOSUB 2710
1550 IF C$="att" OR C$="kil" OR C$="sta" THEN GOSUB 2780
1560 IF C$="sea" THEN GOSUB 2830
1570 IF C$="thr" THEN GOSUB 2860
1580 IF C$="cli" THEN GOSUB 2930
1590 IF C$="up" OR D$="go u" THEN GOSUB 3010
1600 IF C$="dri" THEN GOSUB 3070
1610 IF C$="giv" THEN GOSUB 3110
1620 IF C$="use" OR C$="pri" THEN GOSUB 3180
1630 IF C$="swi" THEN GOSUB 3420
1640 IF C$="unl" THEN GOSUB 3480
1650 IF C$="oil" THEN GOSUB 3540
1660 IF C$="pla" THEN GOSUB 3580
1670 IF C$="fil" THEN GOSUB 3630
1680 IF C$="pou" THEN GOSUB 3660
1690 IF C$="dow" THEN GOSUB 3720
1700 IF C$="pre" THEN GOSUB 3790
1710 IF C$="hel" THEN PRINT "I'm sorry I don't have a clue!"
1720 REM
1730 IF S%<10 THEN 1090
1740 REM
1750 REM ** win the game **
1760 PRINT TAB(3,10);"W e l l D o n e !"
1770 PRINT TAB(3,10);"You have found and recovered all the treasure."
1780 PRINT TAB(1,20);"Goodbye. Thankyou for playing.":END
1790 REM ** go out **
1800 IF P%=12 THEN P%=7:PRINT Y$:RETURN
1810 IF P%=22 AND SA=0 THEN PRINT "The door's locked!":RETURN:ELSE IF
P%=22 THEN P%=21:PRINT Y$:RETURN
1820 IF P%=25 THEN P%=29:PRINT Y$:RETURN
1830 IF P%=63 THEN P%=64:PRINT Y$:RETURN
1840 IF P%=70 THEN P%=69:PRINT Y$:RETURN
1850 PRINT "Don't be silly!!":RETURN
1860 REM ** pray **
1870 PRINT Y$
1880 REM
1890 IF P%<22 OR P%>23 THEN PRINT "That made me feel better!":RETURN
1900 IF SA=0 THEN PRINT "The door opened!":SA=1:
Q$(22)=LEFT$(Q$(22),24):RETURN
1910 PRINT "The door closed!":Q$(22)=Q$(22)+" The door has closed
behind me!":SA=0:RETURN
1920 REM ** go in **

```

```

1930 IF P%=7 THEN P%=12:PRINT Y$:RETURN
1940 IF P%=21 AND SB=0 THEN PRINT "The door is locked!":RETURN:ELSE
    IF P%=21 THEN P%=22:PRINT Y$:RETURN
1950 IF P%=29 THEN P%=25:PRINT Y$:RETURN
1960 IF P%=64 AND SC=0 THEN PRINT "The way in is closed!":RETURN:ELSE
    IF P%=64 THEN PRINT Y$:P%=63:RETURN
1970 IF P%=69 AND SH=1 THEN P%=70:PRINT Y$:RETURN:ELSE IF P%=69 THEN
    PRINT "He won't let me!":RETURN
1980 PRINT "Don't be stupid!":RETURN
1990 REM ** set score **
2000 S%=0
2010 IF B%(13)=12 THEN S%=S%+1
2020 IF B%(15)=12 THEN S%=S%+1
2030 IF B%(17)=12 THEN S%=S%+1
2040 IF B%(18)=12 THEN S%=S%+1
2050 IF B%(19)=12 THEN S%=S%+1
2060 IF B%(20)=12 THEN S%=S%+1
2070 IF B%(21)=12 THEN S%=S%+1
2080 IF B%(28)=12 THEN S%=S%+1
2090 IF B%(29)=12 THEN S%=S%+1
2100 IF B%(30)=12 THEN S%=S%+1
2110 RETURN
2120 REM ** get routine **
2130 GOSUB 2240:IF L%<1 THEN RETURN
2140 E%=0:FOR X=1 TO 30:IF B%(X)=P% AND N%(R)=X THEN E%=1
2150 NEXT:IF E%=0 THEN RETURN
2160 IF (R=13 AND SI=0) OR (R=15 AND SJ=0) OR (R=21 AND SN=0) OR R=26
    THEN PRINT "Don't be absurd!":RETURN
2170 IF R=12 THEN PRINT "I can't carry them all !":RETURN
2180 A(R)=1
2190 E%=0:FOR X=1 TO 4
2200 IF V$(X)="" THEN V$(X)=G$(N%(R)):E%=1:X=5
2210 NEXT:IF E%=0 THEN PRINT "Sorry. My hands are full!":RETURN
2220 B%(N%(R))=0:RETURN
2230 REM ** check item **
2240 L$="":XX=INSTR(Z$," "):R=0
2250 L%=0:L$=RIGHT$(Z$(LEN(Z$)-XX))
2260 IF LEN(L$)<2 THEN RETURN
2270 FOR X=1 TO 30:IF LEFT$(N$(X),LEN(L$))=L$ THEN L%=1:R=X
2280 NEXT:RETURN
2290 REM ** inventory **
2300 E=0:PRINT "I am carrying :-"
2310 FOR X=1 TO 4:IF V$(X)<>"" THEN PRINT V$(X):E=1
2320 NEXT:IF E=0 THEN PRINT "Nothing at all!"
2330 IF A(6)=2 THEN PRINT "I am wearing the gloves!"
2340 IF A(5)=2 THEN PRINT "The vase is full of water!"
2350 RETURN
2360 REM ** drop item **
2370 GOSUB 2240:IF L%<1 THEN PRINT "I don't have ";L$:RETURN
2380 E%=0:FOR X=1 TO 4
2390 IF V$(X)=G$(N%(R)) THEN V$(X)="":E%=1
2400 NEXT:IF E%=0 THEN PRINT "I'm not carrying ";L$:RETURN
2410 B%(N%(R))=P%
2420 A(R)=0
2430 IF R=25 AND P%=72 THEN PRINT "The farmer smiles and thanks me.
    'I've been looking all day for him. Please take my sling. You'll
    find it useful!' he says":G$(27)="a sling":N$(27)="sling":
    G$(26)="":G$(25)="":B%(26)=0:B%(25)=0
2440 RETURN
2450 REM ** wear **
2460 GOSUB 2240
2470 IF R<>6 THEN PRINT "Don't be silly!":RETURN
2480 IF A(6)=0 THEN PRINT "I don't have them!":RETURN

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2490 IF A(6)=2 THEN PRINT "I'm already wearing them!":RETURN
2500 A(6)=2:PRINT Y$:RETURN
2510 REM ** pull lever **
2520 GOSUB 2240:IF P%<>21 OR LEFT$(L$,3)<>"lev" THEN PRINT "Don't be
silly!":RETURN
2530 IF A(6)<>2 THEN E$="A violent electrical current surges through
my body. I am dead!!":GOTO 2610
2540 PRINT "The door opens!":SB=1:RETURN
2550 REM ** wave **
2560 GOSUB 2240:IF R<>7 THEN PRINT "Don't be stupid!":RETURN
2570 IF A(7)=0 THEN PRINT "I don't have it!":RETURN
2580 IF P%<>42 OR S%(42,2)>0 THEN PRINT "nothing happens!":RETURN
2590 PRINT "The drawbridge comes down!":S%(42,2)=46:RETURN
2600 REM ** lose game **
2610 CLS:PRINT E$:PRINT TAB(1,20);"Press the <Space Bar> for another
game."
2620 A$=INKEY$(0):IF A$<>" " THEN 2620
2630 REM
2640 REM
2650 RUN
2660 REM ** read **
2670 IF A(9)=0 THEN PRINT "I have nothing to read!":RETURN
2680 PRINT "The book makes interesting reading. 'To enter the
caverns, repeat the runes SDFDA'"
2690 A(0)=1:RETURN
2700 REM ** talk **
2710 CLS:INPUT "What do you want to say ";Z$
2720 IF P%<>27 THEN PRINT "I talk but nobody listens!":RETURN
2730 IF Z$<>"sdfda" THEN PRINT "Nothing happens!":RETURN
2740 IF A(0)=0 THEN PRINT "It didn't work!":RETURN
2750 Q$(27)="at the entrance to a large cavern."
2760 A(0)=0:S%(27,2)=31:PRINT "The caverns open!":RETURN
2770 REM ** kill **
2780 GOSUB 2240:IF R=13 OR R=15 OR R=21 OR R=25 OR R=26 THEN PRINT
"That's not the right approach!":RETURN
2790 IF LEFT$(L$,3)<>"wol" OR P%<>20 THEN PRINT "Don't be absurd!":
RETURN
2800 IF A(10)=0 THEN E$="The wolf attacks me!!":GOTO 2610
2810 PRINT "The wolf dies!!":S%(20,4)=24:Q$(20)=LEFT$(Q$(20),17)
:RETURN
2820 REM ** search **
2830 IF P%<>24 THEN PRINT "I can't see anything!":RETURN
2840 IF SF=0 THEN SF=1:PRINT "I see something!":G$(11)="a long rope
with a hook attached.":N$(11)="rope":RETURN:ELSE PRINT "I see
nothing!":RETURN
2850 REM ** throw **
2860 GOSUB 2240:IF R<>11 THEN PRINT "I don't see much point in
that!":RETURN
2870 IF A(11)=0 THEN PRINT "I don't have it!":RETURN
2880 IF P%<>36 THEN PRINT "The hook doesn't catch on anything!":
RETURN
2890 IF SG=0 THEN SG=1:PRINT "The rope catches on something!":
Q$(36)=Q$(36)+" A rope hangs down."
2900 FOR X=1 TO 4:IF V$(X)=G$(11) THEN V$(X)=""
2910 NEXT:RETURN
2920 REM ** climb **
2930 GOSUB 2240
2940 IF P%=54 AND SL=1 THEN PRINT Y$:P%=49:RETURN
2950 IF R<>11 THEN PRINT "I can only climb a rope!":RETURN
2960 IF P%<36 OR P%>37 THEN PRINT "Not here!":RETURN
2970 IF SG<>1 THEN PRINT "Not just yet!":RETURN
2980 IF P%=36 THEN P%=37:PRINT Y$:RETURN
2990 P%=36:PRINT Y$:RETURN

```



```

3000 REM ** go up **
3010 IF P%=70 THEN P%=71:PRINT Y$:RETURN
3020 IF P%=80 THEN P%=79:PRINT Y$:RETURN
3030 IF P%=36 AND SG=0 THEN PRINT " not just yet!":RETURN:ELSE IF
    P%=36 THEN P%=37:PRINT Y$:RETURN
3040 IF P%=54 AND SL=1 THEN P%=49:PRINT Y$:RETURN
3050 PRINT "I can't do that here!":RETURN
3060 REM ** drink **
3070 GOSUB 2240:IF R<>8 THEN PRINT "Don't be silly!":RETURN
3080 IF A(8)=0 THEN PRINT "I don't have any!":RETURN
3090 E$="I drink the rum and in a drunken stupor, fall and break my
    neck!":GOTO 2610
3100 REM ** give **
3110 GOSUB 2240:IF R<>8 THEN PRINT "I'm not giving ";L$:RETURN
3120 IF A(8)=0 THEN PRINT "I don't have any!":RETURN
3130 IF P%<>69 THEN PRINT "There's nobody here who would like
    it!":RETURN
3140 A(8)=0:FOR X=1 TO 4:IF V$(X)=G$(8) THEN V$(X)="
3150 NEXT:PRINT "The tramp thanks me and walks away!"
3160 Q$(69)=LEFT$(Q$(69),40):SH=1:RETURN
3170 REM ** use **
3180 GOSUB 2240
3190 IF R=4 AND A(4)=0 THEN PRINT "I don't have it!":RETURN
3200 IF R=4 AND P%<>44 THEN PRINT "Nothing happens!":RETURN
3210 IF R=4 THEN PRINT "The ghost disappears into the bag!"
    :S$(44,2)=48:Q$(44)=LEFT$(Q$(44),29):RETURN
3220 IF R=14 AND A(14)=0 THEN PRINT "I don't have it!":RETURN
3230 IF R=14 AND P%<>33 THEN PRINT "There isn't much point
    here!":RETURN
3240 IF R=14 THEN PRINT "The vampire flees for his life leaving
    something behind!":SI=1:G$(13)="a ** JADE RING **"
    :N$(13)="jade":RETURN
3250 IF R=16 AND A(16)=0 THEN PRINT "I don't have it!":RETURN
3260 IF R=16 AND P%<>35 THEN PRINT "There isn't much point
    here!":RETURN
3270 IF R=16 THEN PRINT "The slug shrivels up to nothing and leaves
    something on the ground!":G$(15)="a ** SILK PURSE
    **":N$(15)="silk":SJ=1:RETURN
3280 IF R=22 AND A(22)=0 THEN PRINT "I don't have it!":RETURN
3290 IF R=22 AND (P%=35 OR P%=72 OR P%=62 OR P%=44 OR P%=33) THEN
    E$="It explodes and covers me with a searing jet of
    flames!":GOTO 2610
3300 IF R=22 AND P%<>59 THEN PRINT "I don't see much point in using
    it here!":RETURN
3310 IF R=22 THEN PRINT "The flames drive them away!"
    :S$(59,2)=61:Q$(59)=LEFT$(Q$(59),29):RETURN
3320 IF R=23 AND A(23)=0 THEN PRINT "I don't have it!":RETURN
3330 IF R=23 AND P%<>79 THEN PRINT "It's not much use here!":RETURN
3340 IF R=23 AND SM=0 THEN PRINT "The grate opens!":SM=1:
    Q$(79)=LEFT$(Q$(79),30)+" There is a small hole in the ground."
    :RETURN
3350 IF R=23 THEN PRINT "It's already open!":RETURN
3360 IF R=27 AND A(27)=0 THEN PRINT "I don't have it!":RETURN
3370 IF R=27 AND P%<>62 THEN PRINT "a sling is of little use
    here!":RETURN
3380 IF R=27 AND SN=1 THEN PRINT "I can't use it twice!":RETURN
3390 IF R=27 AND SN=0 THEN SN=1:PRINT "That's done the trick.The
    giant's body fades away.I see something here!":G$(21)="an **
    EMERALD **":N$(21)="emerald":RETURN
3400 PRINT "I can't use ";L$;" here!":RETURN
3410 REM ** swim **
3420 IF P%=10 THEN P%=15:PRINT Y$:RETURN
3430 IF P%=15 THEN P%=10:PRINT Y$:RETURN

```

```

3440 IF P%=65 OR P%=68 THEN PRINT "The water is not deep enough!"
      :RETURN
3450 IF P%=64 OR P%=8 THEN E$="I drown....what a stupid suggestion!"
      :GOTO 2610
3460 PRINT "Don't be ridiculous!":RETURN
3470 REM ** unlock **
3480 IF A(3)=0 THEN PRINT "I have no key!":RETURN
3490 IF SK=0 AND P%=16 THEN PRINT "The lock's too rusty!":RETURN
3500 IF P%=16 THEN PRINT Y$:PRINT "The chain comes
      loose!":Q$(16)=LEFT$(Q$(16),40):S$(16,2)=17:RETURN
3510 IF P%=79 THEN PRINT "There's no keyhole!":RETURN
3520 PRINT "Don't be silly!":RETURN
3530 REM ** oil **
3540 IF P%<>16 THEN PRINT "I can't!":RETURN
3550 IF A(2)=0 THEN PRINT "no oil!":RETURN
3560 PRINT Y$:SK=1:RETURN
3570 REM ** plant **
3580 IF A(1)=0 THEN PRINT "I can't!":RETURN
3590 IF P%<>54 THEN PRINT "The ground's too hard!":RETURN
3600 FOR X=1 TO 4:IF V$(X)=G$(1) THEN V$(X)="":PRINT Y$
3610 NEXT G$(1)="a tiny little beanstalk murmuring....water,water!"
      :B$(1)=54:N$(1)="":A(1)=2:RETURN
3620 REM ** fill **
3630 IF A(5)=0 THEN PRINT "Fill what?":RETURN
3640 IF P%=10 OR P%=15 OR P%=26 OR P%=64 OR P%=65 OR P%=68 THEN PRINT
      Y$:A(5)=2:RETURN:ELSE PRINT "I can't do that here!":RETURN
3650 REM ** pour **
3660 IF A(5)<>2 THEN PRINT "I can't!":RETURN
3670 PRINT Y$:A(5)=1
3680 IF P%<>54 OR A(1)<>2 THEN RETURN
3690 IF SL=0 THEN PRINT "The beanstalk spurts into rapid growth!"
      :G$(1)="an enormous beanstalk reaching high into the
      clouds.":SL=1
3700 RETURN
3710 REM ** go down **
3720 IF P%=37 THEN P%=36:PRINT Y$:RETURN
3730 IF P%=49 THEN P%=54:PRINT Y$:RETURN
3740 IF P%=71 THEN P%=70:PRINT Y$:RETURN
3750 IF P%=79 AND SM=0 THEN PRINT "I can't get past the
      grate!":RETURN
3760 IF P%=79 THEN P%=80:PRINT Y$:RETURN
3770 PRINT "I can't!":RETURN
3780 REM ** press **
3790 IF P%<>64 THEN PRINT "I can't do that here!":RETURN
3800 PRINT "There are three buttons."
3810 PRINT "RED GREEN and BLUE."
3820 INPUT "Which one do I press ";Z$
3830 Z$=LEFT$(Z$,1):IF SC=1 THEN E$="A snake crawls out from behind
      the buttons and sinks its fangs into me!":GOTO 2610
3840 SC=1:IF Z$<>"b" THEN PRINT "Nothing seems to happen!":SC=0
      :RETURN
3850 PRINT "A door opens!":RETURN
4140 REM ** paddle **
4150 IF P%=65 THEN P%=68:PRINT Y$:RETURN
4160 IF P%=68 THEN P%=65:PRINT Y$:RETURN
4170 IF P%=64 OR P%=10 OR P%=15 THEN PRINT "The water's too deep!"
      :RETURN
4180 PRINT "I can't go paddling here dummy!":RETURN

```

## BASIC BASIC 2

HELLO AGAIN Now just a quick recap on the commands covered last time  
PRINT LET NEW + \* / LIST SAVE LOAD

Now we have covered a few of the basic commands we shall speed things up a little. If you want an explanation of what some of the commands do they are fully covered in the basic manual.

Having learnt what a string is we shall write a small program to measure how long the string you have entered is.

```
10 INPUT A$
20 PRINT A$,LEN(A$)
30 GOTO 10
```

If you type in this program it will continue to run until you press the ESC key. The computer waits for you to enter a string and then tells you how long it is. Line 10 is asking the user to enter data from the keyboard. Line 20 prints the string the user has entered and uses the VAL command to measure how long it is and prints it along-side the string. Line 30 tells the computer to go to line 10 We do not always want to have to use escape to stop the program so we will add two other lines, Type

```
15 IF A$="STOP" THEN GOTO 40
40 STOP
```

As we have seen before these lines will be inserted between the other lines we have already entered. Line 15 tells the computer to check the string we have entered to see if it is = to the word STOP and if it is goto line 40. Line 40 tells the computer to stop. Now let us expand the program further. Type

```
2 PRINT "SHALL I TELL YOU A JOKE"
20 IF A$="GET LOST" THEN GOTO 200
30 PRINT "HOW MANY LEGS HAS A HORSE GOT"
40 INPUT LEGS
50 IF LEGS = 6 THEN GOTO 70
60 PRINT "NO 6,          FORE LEGS IN FRONT AND TWO BEHIND"
70 PRINT "SHALL I TELL IT TO YOU AGAIN"
80 INPUT B$
100 IF B$="YES" THEN GOTO 2
200 PRINT "ALL RIGHT THEN I WON'T"
300 STOP
```

As you can see we have used two string variables A\$ and B\$ with one numeric variable legs and the rest is just prints statements and telling the computer to do a little checking. From this point we can build the program into a larger more complicated one but that is for you to play with. Just one last command before I go and that is RENUM this will tidy up all the line numbers. For a fuller explanation see page 196 of the basic book. Sorry this month's lesson is a bit short but time is a bit short at present so bye bye and see you next time.

## WARGAMES

And now a game for all you bloodthirsty warmongers, written in XBAS and running in 40 column mode

```
10 CLS:A=15000:B=15000:C=24:D=15:E=24:F=15
20 PRINT "NUCLEAR WAR HAS BROKEN OUT BETWEEN THE TWO SUPER
POWERS."
30 PRINT "EACH SIDE HAS EQUAL CAPABILITIES"
40 PRINT:PRINT "NUCLEAR WARHEADS ARE RENEWABLE, BUT ANTI-MISSILES
ARE NOT."
50 PRINT "YOU ARE IN COMMAND OF THE U.S.A. FORCES":PRINT:PRINT:
PRINT:PRINT
60 REM
70 PRINT "PRESS 'R' KEY"
80 A$=INCH$
90 IF A$="R" THEN 110
100 GOTO 80
```

```

110 CLS
120 PRINT:PRINTMUL$(CHR$(203),40)
130 PRINT TAB(10)"BATTLE REPORT"
140 PRINT:PRINT TAB(14)"U.S.A."
150 PRINT:PRINT TAB(3)"POPULATION-";A;" MILLION"
160 PRINT:PRINT TAB(3)"STRIKE CAPABILITY-";C;" MISSILES"
170 PRINT:PRINT TAB(3)"DEFENCE CAPABILITY-";D;" ANTI-MISSILES"
180 PRINT:PRINT TAB(13)"U.S.S.R."
190 PRINT:PRINT TAB(3)"POPULATION-";B;" MILLION"
200 PRINT:PRINT TAB(3)"STRIKE CAPABILITY-";E;" MISSILES"
210 PRINT:PRINT TAB(3)"DEFENCE CAPABILITY-";F;" ANTI-MISSILES"
220 PRINT:PRINTMUL$(CHR$(203),40)
225 FOR U=1 TO 1500:NEXT U:CLS
230 PRINT "WHAT NEXT? A FOR ATTACK, M FOR MISSILE PRODUCTION"
240 B$=INCH$
250 IF B$="A" AND C>0 THEN 300
260 IF B$="M" THEN 280
270 GOTO 240
280 P=RND(6)
290 C=C+P:CLS:PRINT P;" MISSILES WERE PRODUCED":GOTO 380
300 T=RND(100)+1:X=RND(50)+1:IF X=35 GOTO 720
310 C=C-1
320 CLS:PRINT:PRINT "MISSILE LAUNCHED-":FOR Z=1 TO 900:NEXT Z:
GOTO 600
330 PRINT:PRINT "THE MISSILE HAS EXPLODED ";T;" MILES FROM TARGET
ENTRE"
340 P=(100-T)*10:IF P>B THEN P=B
350 PRINT:PRINT P;" MIL. RUSSIANS HAVE BEEN KILLED BY THE BLAST AND
RADIOACTIVE FALLOUT"
360 B=B-P
370 IF B<=0 GOTO 680
380 G=RND(14)+1
390 IF E>G THEN 430
400 PRINT:PRINT "THE U.S.S.R. ARE PRODUCING MISSILES"
410 Q=RND(6)
420 E=E+Q:GOTO 70
430 PRINT:PRINT "THE U.S.S.R. HAS LAUNCHED A MISSILE":
F D=0 THEN 550
440 E=E-1
450 PRINT:PRINT"LAUNCH ANTI-MISSILE? Y or N "
460 A$=INCH$
470 IF A$="Y" THEN 500
480 IF A$="N" THEN 550
490 GOTO 460
500 V=RND(2)+1
510 IF V=2 GOTO 530
520 PRINT:PRINT "ANTI-MISSILE HIT--U.S.S.R. MISSILE DESTROYED":
=D-1:GOTO 70
530 PRINT:PRINT"ANTI-MISSILE IN-OPERATIVE--U.S.S.R. MISSILE INTACT"
540 D=D-1
550 L=RND(100)+1:G=RND(50):IF G=35 GOTO 730
560 N=(100-L)*10:IF N>A THEN N=A
570 PRINT:PRINT N;" MIL. AMERICANS ARE KILLED BY THE BLAST AND
RADIOACTIVE FALLOUT"
580 A=A-N:IF A<=0 GOTO 700
590 GOTO 70
600 IF F=0 GOTO 620
610 M=RND(2)+1:IF M=1 GOTO 640
620 PRINT:PRINT "U.S.S.R. HAS NOT LAUNCHED ANTI-MISSILE"
630 GOTO 330
640 I=RND(2)+1:PRINT:PRINT "U.S.S.R. HAS LAUNCHED ANTI-MISSILE":
F I=2 GOTO 670
650 PRINT:PRINT "ANTI-MISSILE MISSES TARGET"

```

```

660 F=F-1:GOTO 330
670 PRINT:PRINT "U.S. MISSILE IS HIT AND DESTROYED":F=F-1:GOTO 390
680 PRINT:PRINT "U.S.S.R. IS WIPED OUT AND U.S.A. WINS"
690 END
700 PRINT:PRINT "U.S.A. IS WIPED OUT AND U.S.S.R. WINS"
710 END
720 PRINT "DIRECT HIT ON U.S.S.R. NUCLEAR STOCKPILE":GOTO 680
730 PRINT "DIRECT HIT ON U.S.A. NUCLEAR STOCKPILE":GOTO 700
    
```

#### PROGRAM TO PROGRAM

Do you remember in last weeks newsletter the article about the VIDEO RAM, and under section 'G' it mentioned that the area in Video Ram from &3FC0 to &3FFF was unused and available for the programmer, well here goes. By poking data into this area it is preserved, intact and immune to instructions like NEW and RUN and will even stay there on a HARD RESET, that is pressing the reset button on the back. Good eh! Supposing you had a suit of programs that required the date. By storing the date in video ram, you can run new programs without having to re-enter the date, in fact the only time you would have to re-enter, would be when you turned the machine off, let me show you:-

```

10 REM date stored in form DD/MM/YY
20 REM test for date by detecting then slash
30 IF VPEEK (&3FC2)=47 AND VPEEK (&3FC5)=47 THEN GOTO MAIN PROGRAM
40 REM otherwise no date in memory
50 INPUT"DATE";DATE$:REM test for valid date in neccessary
60 FORX=0TO7
70 A=ASC(MID$(DATE$,X+1,1))
80 VPOKE &3FC0+X,A
90 NEXT
100 MAIN PROGRAM
110 DATE$="":REM make sure DATE$ is empty
120 FOR X=0 TO 7:REM eight characters in DATE$
130 DATE$=DATE$+CHR$(VPEEK (&3FC0+X)):REM build string
140 NEXT:PRINT DATE$
150 REM:continue with actual program
    
```

Line 30 tests video ram to see if the two back slashes are in position if they are it jumps straight to the main program, which collects the date from video ram otherwise the following few lines get the date and place it into video ram. Put your thinking caps on, there must be a hundred and one uses for a store that will survive a hard reset!

#### NSWEEP

##### A disc maintenance utility

Written by a guy called Dave Rand, who resides in Canada and donated to the P D Library. This means that it is free and it is an offence to SELL it. There is however usually a copying charge of about £1.50 to get a disc full of P D software.

What is it? NSWEEP is COPY and LOCK and UNLOCK and DIR and ERA and lots more all in one program. The document file that goes with the program is 16 pages long and details the operation of the program in full but suffice it to say that in NSWEEP's 12k of disc space it replaces over 100k of utilities. I have only been using it for two months now and I wonder how I got on without it before.

Enough waffle you say, lets get on with it.

Once loaded NSWEEP displays the directory in Alphabetical order, definately usefull. Operations are done on Tagged Files, that is as you look at each entry you can Tag it. Then any operation done to one file is done to all of the tagged files. For example, if you wanted to copy the files XBAS, PICPEN, KEYBOARD and OTHELLLO from your system master dic to another you would either have to do a COPY 0:\*. \* to 1\*, and agree with each entry as it came up to copy it over or copy each file individually. With NSWEEP you Tag the four files and enter 'M' for Mass copy and the destination disc to copy to, and it does the



est. In the same way if you wished to LOCK 7 files on a disc with NSWEEP it is simply a matter of Tagging the seven files and entering 'Y' to indicate setting flags followed by 'R' for READ ONLY.

One of the most usefull facilities that Keith has found on it is SQUEEZING files. To the uninitiated, like me until last week, this allows you to SQUEEZE a text file into the minimum possible space. How it does it I don't know but an unsqueezed file of 50k can be reduced down to as little as 26k. When needed it can then be UNSQUEEZED back to it's original size and format. The really clever thing about NSWEEP is that it will display squeezed files as though they were not squeezed so that you can check to see if it is the one you want before unsqueezing it. Squeezing files really does save a lot of space if you have lots of text files.

Briefly NSWEEP commands are:-Copy (one file), Delete (one file), Erase Tagged files), Find file, Mass copy (Tagged files), Print file, Rename file, Check size of remaining space on a disc, View a file (To screen), Set file status (Tagged files), Tag file, Untag file, Display help page and last on my list Squeeze and Unsqueeze files.

This does not cover all the facilities but it gives you a good idea of its power.

One command that I have not got around to using yet (I found it while was re-reading the documentation for this article) is Wildcard Tagging, like CP/Ms DIR AS\*.COM lists all the files that start AS and have the extension .COM the 'W' command in NSWEEP wil Tag all the files that start AS and have an extension .COM making copying multiple files easier still.

For your free copy send a formatted disc to Keith Stokes at UKEUG Headquarters with a cheque for £1.50 to cover return postage and copying. You will also get other P D software on your disc, and a list of the P D stuff we currently hold.

# MAGIC SQUARES

```

10 REM*****MAGIC SQUARES*****          250 REM***CHECK ROWS & COLS****
20 REM*****SET-UP*****                  260 F=0
30 M=19:DIM A(M,M)                        270 FOR Y=1 TO S:T=0
40 PRINT:PRINT"MAGIC SQUARES"            280 FOR X=1 TO S:T=T+A(X,Y):
50 PRINT:PRINT"HOW MANY ROWS(1           NEXT X
   TO 19)";:INPUT S                      290 IF F=0 THEN F=1:GOTO310
60 IF S<0 OR S<>INT(S) THEN              300 IF T<>U THEN PRINT"ERROR-Row
   PRINT"ERROR-Odd Numbers                1 & Row";Y;"Do Not Match":STOP
   Only":GOTO 50                          310 U=T:NEXT Y
70 IF S>M THEN PRINT"ERROR":              320 FOR X=1 TO S:T=0
   GOTO 50                                330 FOR Y=1 TO S:T=T+A(X,Y):
80 IF S/2=INT(S/2) THEN                   NEXT Y
   PRINT"ERROR-ODD NUMBERS                340 IF T<>U THEN PRINT"ERROR- Row
   ONLY":GOTO 50                          1 & Col";X;"Do Not Match":STOP
90 REM**GENERATE SQUARES*****            350 U=T:NEXT X
100 X=INT(S/2)+1:Y=1:C=1                  360 PRINT:PRINT"All rows and cols
110 A(X,Y)=C                              add to ";T
120 C=C+1:IF C>S*S THEN GOTO200           370 GOTO40
130 X=X+1:IFX>S THEN X=1                  380 REM***NUM-STRING CONV****
140 Y=Y+1:IFY>S THEN Y=1                  390 A$=STR$(A)
150 IF A(X,Y)<>0 THENX=X-2:Y=Y-1           400 IF LEN(A$)<3 THEN A$=" "+A$
160 IF Y=0 THEN Y=S                       :GOTO 400
170 IF X=0 THEN X=S                        410 RETURN
180 IF X=-1 THEN X=S-1
190 GOTO 110
200 REM***PRINT SQUARE***
210 PRINT:PRINT
220 FOR Y=1 TO S:FOR X=1 TO S
230 A=A(X,Y):COSUB 380:
   PRINT" ";A$;" ";
240 NEXT X:PRINT:NEXT Y

```

# The THINGI

Have you seen the THINGI? If not pop around to W.H.Smiths or Boots and have a look. It is a very usefull accessory for all computer owners and is now available from UKEUG at the very special OFFER price of only £5.49 including VAT and post and packing. Or alternatively get one from either of the above mentioned stores at for £6.99 or more. Send your orders to UKEUG at our usual address. Please allow 28 days for delivery.

STOP PRESS HARD DISC NOW AVAILABLE FROM US AT £520.00 ALL INC.

## SUGAR FREE SOFTWARE

For some strange reason, which I won't go into now, a large number of well known programs such as SUPERCALC 2, TURBO PASCAL and WORDSTAR have been available for the A\*\*\*\*\*D at extreemly low prices, in some case at less than half the price quoted for the same program on an EINSTEIN format disk, to be fair this also happens to other computer owners as well. The thinking seems to be that if you have just spent x thousands of £s on an IBM system then you WILL pay x hundreds of £s for our software if you want to use your computer, which is fine if you have all those £s ( if you have I could do with a few) but having spent only £500.00 on a system why should I want to pay over £300.00 on a wordprocessor when the same one can be purchased for only £70.00 for the A\*\*\*\*\*D, well now I don't as I have AMTAT.

AMTAT comes supplied on a disk with CP/M on one side and the AMTAT utilities on the other. These comprise of the system tracks, which are a modified version of CP/M containing a BIOS to enable the EINSTEIN to emulate the A\*\*\*\*\*D and two programs (which are essentially the same) which configure either drive 0: or drive 1: to read/write in the chosen A\*\*\*\*\*D format. To use the twin drive set up we do the following.

Re-set the computer with the AMTAT disk in drive 0: and any EINSTEIN formatted disk in drive 1: and you will be presented with the AMTAT/A.C.C. copyright notice. Type AMTAT2 and after a few seconds you will be asked which of the following AD formats you wish to use.

- 1 PCW 8256/8512 system format
- 2 6128 system format
- 3 Data only format

during which time drive 1: will have been accessed the screen will say AMTAT INSTALLED FOR DRIVE 1

Now insert the A\*\*\*\*\*D disc in drive 1 type DIR B: and if you chose the correct format you will get a directory of whatever is on the disc, such as

B:CARDBOX .OVR B:CARDBOX .COM B:MAILLIST.FMT B:MAILLIST.FIL  
B:STOCK .FIL B:STOCK .FMT

(note there is a tendency to drop out of AMTAT if you don't get it right, but it is well worth carrying on)

Having done that you can now do one of two things, load and run the program or transfer it from the A\*\*\*\*\*D disc to the Einstein disc in drive A: once there it is used as on the Einstein.

Tested so far on the Einstein, running under AMTAT are:-

From the A\*\*\*\*\*D system discs the following programs work, DUMP.COM SID.COM HEX.COM LINK.COM MAC.COM RMAC.COM and XREF.COM.

BASIC loads but we have not been able to do anything with it yet. (Need a manual). GENGRAF.COM wants to work but we don't know what is does or needs.

SAGESOFT Software in theory this should run with no problems, Payroll seems to run well, Accounts are being a pain, Invoicing looks promising, but we are a present stil testing these. (Note They all assume only one drive 'A:' which involves a lot of disc swapping.) Cardbox and Supercalc both run admirably.

th some fiddling about it is possible to get some of the above programs to run as Einstein programs under the Einstein operating system as long as the AMTAT Bios is resident.

summarise, AMTAT looks to be a most usefull utility and makes a ir amount of (cheap?) software available.

e last thing, do make PLENTY of backups of the system tracks as it es seem to drop out quite often, but this may be due to perimenting more than error.

# TIMEBOMB L.Warner

itten with pre-school children in mind this one caught my atention and pt me playing for several minutes, after that I got so keyed up and nikey in case i didn't get there in time I gave up for the sake of my rves. For someone who only purchases their first mputer a few months ago an excellent effort.

```

10 REM*** TIMEBOMB by L.Warner
20 DT=1:DB=14:TCOLDT,DB:CLS32
30 PRINT " TIME BOMB"
40 REM
50 PRINT:PRINT:PRINT:PRINT "YOU
HAVE 8 SECONDS TO DEFUSE A"
55 PRINT"BOMB BY CUTTING THREE
WIRES.THE"
60 PRINT"COMPUTER WILL TELL YOU
WHICH"
70 PRINT"WIRE TO CUT FIRST.
YOU MUST"
80 PRINT"TYPE IN THE COLOUR AND
'CR'.THE"
90 PRINT"COMPUTER WILL THEN
DISPLAY THE SECOND COLOUR AND
YOU MUST TYPE"
00 PRINT"IN THE COLOUR AND 'CR'
AND SO ON TO THE THIRD WIRE.
YOU HAD"
20 PRINT"BETTER BE QUICK OR BE
BLOWN UP"
30 PRINT" (PRESS ANY KEY TO
START)"
40 A$=INCH$:IF A$="" THEN 140
50 CLS:A=RND(3)+1
60 B=RND(3)+1
70 C=RND(3)+1
80 PRINT "YOU HAVE 8 SECONDS TO
DEFUSE THE"
85 PRINT " BOMB."
90 PRINT:PRINT " THE CLOCK
STARTS NOW!"
00 FOR U=1 TO 1000:NEXT U
10 TI$="000000"
20 ON A GOTO 230,240,250
30 A$="RED":T=8:BA=DB:GOTO 260
40 A$="GREEN":T=12:BA=DB:GOTO 260
50 A$="YELLOW":T=10:BA=DB
60 PRINT "CUT THE ";:TCOLBT,T:
PRINTA$;:TCOLDT,DB:PRINT" WIRE
FIRST."
70 INPUT Z$
80 IF TI$>"000008" THEN 550
90 IF Z$=A$ THEN 310
00 PRINT "NO THE ";:TCOLDT,T:
PRINTA$;:TCOLDT,DB:PRINT"
FIRST.":GOTO 270
310 ON B GOTO 320,330,340
320 B$="BLUE":T=4:BA=DB:GOTO 350
330 B$="MAGENTA":T=13:BA=DB:
GOTO 350
340 B$="WHITE":T=15:BA=DT
350 PRINT "CUT THE ";:TCOLDT,T:
PRINTB$;:TCOLDT,DB:PRINT" WIRE
SECOND."
360 INPUT Z$
370 IF TI$>"000008" THEN 550
380 IF Z$=B$ THEN 400
390 PRINT "NO THE ";:TCOLDT,A:
PRINTB$;:TCOLDT,DB:PRINT"
WIRE.":GOTO 360
400 ON C GOTO 410,420,430
410 C$="BLACK":T=1:BA=DB:GOTO 440
420 C$="CYAN":T=7:BA=DB:GOTO 440
430 C$="PINK":T=9:BA=DB
440 PRINT "CUT THE ";:TCOLDT,T:
PRINTC$;:TCOLDT,DB:PRINT" WIRE
THIRD."
450 INPUT Z$
460 IF TI$>"000008" THEN 550
470 IF Z$=C$ THEN 490
480 PRINT "NO THE ";:TCOLDT,T:
PRINTC$;:TCOLDT,DB:15:PRINT"
WIRE.":GOTO 450
490 IF TI$>"000008" THEN 550
500 PRINT "WELL DONE YOU HAVE
DEFUSED THE BOMB IN TIME.":
PRINT"WOULD YOU LIKE ANOTHER
GO?"
510 A$=INCH$:IF A$="Y" THEN 150
520 IF A$="N" THEN CLS:END
540 REM
550 REM EXPLOSION
560 PSG6,31:PSG7,71
570 PSG8,16:PSG9,16:PSG10,16
580 PSG12,100
590 PSG13,0
600 PRINT "BOOM!!!! YOU WERE TOO
LATE THE BOMB HAS EXPLODED
AND KILLED YOU. ANOTHER
TRY?":GOTO 510

```

## LETTERS

### BODY BUILDING

Being a relatively new member of UKEUG I must say how much I have appreciated the back copies of the magazine, and have been trying some of the programs published.

I have encountered some problems with the program "TRIG HELPER" in issue 6, and wonder if you can help. After typing in all 9 pages I find it was meant to be in BBCBASIC not XBAS as I expected, so on re-typing it I find at least two errors which I hope you can help me with. In line 3450 it says at the end of the line "THEN 3450" and in line 3960 "THEN 3962" as these lines do not exist in the program, obviously it will not run. Could you tell me the correct numbers, and also let me know if any other errors have been discovered.

Could you let me know how MARTIN PAGE managed to get "SCREEN PLUS" to print out "Picpen" or get him to do another article on the subject, I am sure many members would like to know.

Lastly, ARE THERE ANY BRILLIANT ELECTRONIC ENGINEERS in the club that have built any ADD ONS such as LIGHT PEN, GRAPH TABLE, or a MOUSE, and if so are they willing to share their knowledge with us, could they organize something like the BEEB body building series.

Sorry to ask so many questions in my first letter to you but as a complete novice I have to start somewhere.

I, like at least one other of your readers, subscribe to "BRAIN" but find they think everyone is an expert before we start.

A.D.Panting.

ANSWER Dave Harvey has been contacted and will soon come up with the answers on TRIG HELPER. As for more info from Martin Page, well, now he has reached the end of another OPEN UNIVERSITY term we expect to get lots of interesting articles from him. (Wish him well in his exams). BRILLIANT ELECTRONIC ENGINEERS, now is your chance. Seriously, there are several but they seem to be tied up at present on their own projects. But worry not, we will turn up with something!!

### UKEUG Membership

I have been an Einstein owner (Dixon Package) for about a year, graduating from a Sharp M280 (48k). I got to know the sharp very well in the process of implementing modifications to the hardware.

The only information I have on the Einstein is a hardware manual acquired at the time of purchase. Since I am a pensioner, cash outlay has to be very wisely spent and I have been very suspicious of outfits offering Club membership at about £16.00 and having associations with commercial bodies. I came across your letter in the 'Your Micro' quite by accident while visiting the local Library.

I am interested in the administration of Football leagues-matches, results, discipline, sportsmanship, tables, press, breaches of league rules, cup draws etc., some 90 clubs involved. In this context I have written a BASIC program which is now in its umpteenth edition having grown from one program on the Sharp to one plus six sub programs and a 20kb data file on the Einstein. I am at present writing a program which will compile a new seasons fixtures of about 2000 matches and set up the variables on a question and answer basis for a new file. This is in order that my wife could cope if I were incapacitated.

As a consequence of the size of the program, I am interested in the possibility of compiling it in order to release some more RAM.

Information which I would welcome from any member able to assist is:-

- a) How can I arrange to load some tapes into the Einstein?
- b) If I succeed, how can I tell where the end of the header is on a machine code program?
- c) What is required to modify other CPM 'compatible' m/code programs to function on the Einstein?
- d) How can I program the Einstein Function keys to operate with Kuma WDPRO?

My telephone No. is INGREBOURNE 45214 and I am in most of the daytime except those times when the tongue gets thick with dryness which can only be relieved by a visit to the local hostelry.

Vic (H.V.) Gardner. Romford.

P.S. For my sins I am also Secretary of the Romford Branch of the Royal British Legion. If there is any help I can give the membership in that field under separate cover I would be most happy to do so. HVG

ANSWER Most of Vics problems can be sorted by connecting his Sharp up to the Einstein along the RS232 (I rang him and checked). The version of WDPRO you have depends on whether or not the Function keys can be programmed from WDPRO. If they cannot, then we suggest programming them from BASIC and then going into DOS and running WDPRO, a little long winded but safe. CPM compatibility, Now that Keith has relinquished the onerous task of Editor and has so much spare time on his hands, we are hoping that as a keen CPM fan himself he may be able to help us all out on this as time goes on.

Mr. J.S.Benjamin of 6 Barclay Rd., Edmonton, London. N18 1EF would like to get in touch with anyone who has used the Einstein for musical applications.

ANSWER There is a company in Orpington Kent who are writing the software to turn the Einstein into a synthesiser comparable to a Fairlight but as yet we have no firm information as to when it will be ready.

Mrs. Marianne Dickenson of Rochdale wants to know if she buys an 80 column card will it patch to two colours other than black and white.

ANSWER There are no colour commands in the version of WORDSTAR available for the Einstein so it will default to black and white. With the colour monitor for the Einstein this is what you get but you can use the switch on the back to make the default green on black. With the 80 column monitor you get green on white anyway.

Stephen Blamires says that he noticed in Issue 2 that D.Cummins of Ladywell was looking for Astrological software for the Einstein. He tells us that some is NOW AVAILABLE from "Astrocalc", Colin Miles B.Sc.DMS Astrol, 67 Peascroft Road, Hemel Hempstead, Herts. HP3 8ER  
Thank you Stephen (Ed)

Mr. G.F.Constable is having trouble with the movement of Graphics. All I can suggest at the moment is watch future issues of the newsletter as we are hoping for some more on this both in the BASIC BASIC series and also from Martin Page now that he has finished his O.U. course for this year.