APPLICATION NOTE NO. 19

USING "ALLOCATE" ON THE ENTERPRISE 64.

There is a bug in the EXOS ROM of the 64K Enterprise which occurs when making room for machine code programs using ALLOCATE. Sometimes this command will corrupt a BASIC program or 'de-allocate' allowing the code to the accidently over-written. The way around this problem is a little BASIC program which will distinguish between the 64K machine and the 128K machine (which hasn't this bug) and take appropriate action.

An important part of the program is line 40 where DESIRED_SPACE can be changed from 200 to whatever value is required, i.e. the amount of bytes to be reserved for machine code.

Explanation/comments:-

Line 10   holds the name of the program.
Line 30   The variable UNIQUE$ just holds a dummy string which
          is used later in the program to see if the program
          has been run before.
Line 40   The variable DESIRED_SPACE holds the amount of bytes
          to be reserved for machine code.
Line 60   checks what machine is being used (64K or 128K)
Line 70   makes T equal to the current allocation base minus
          the variable size.
Line 90   compares header string to see if program has already
          been executed.
Line 130 The string after the CODE statement must be the same
          as UNIQUE$.
Line 140 This re-runs the program.
Line 180 In conjunction with Line 190 sets BASIC's location
          counter correctly.
Line 210 is the line that will execute if a 128K machine is in
          use.

On the next page is the main program with a short test program 'tacked-on' at the end.

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10      PROGRAM "ALLOCATE HEADER"
20      ! LINES 100 AND 230 SHOULD CONTAIN THE SAME STRING.
30      UNIQUE$="ANYTHING"
40      DESIRED_SPACE=200
50      SIZE=DESIRED_SPACE+LEN(UNIQUE$)
60      IF VERNUM=2 THEN
70      T=PEEK(544)+256*PEEK(545)-SIZE
80      FOR X=1 TO LEN(UNIQUE$)
90      IF PEEK (X+T-1)<>ORD(UNIQUE$(X:X))THEN
100     ALLOCATE SIZE
110     POKE 542,PEEK(544)
120     POKE 543,PEEK(545)
130     CODE="ANYTHING"
140     RUN
150     END IF
160     NEXT X
170     X=X+T
180     POKE 540,X BAND 255
190     POKE 541,X/256
200     ELSE
210     ALLOCATE DESIRED_SPACE
220     END IF
230     !*** EXAMPLE ***
240     CODE FRED="RUBBISH"
250     PRINT FRED
260     DEF P(X)=PEEK(X)+256*PEEK(X+1)
270     FOR X=538 TO 544
280     PRINT X,P(X)
290     NEXT X
```