

# BASIC

## BASIC PROGRAMS THAT RUN THEMSELVES

by Richard Beal

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The Generate command in T4 and Nas-Sys provides an easy way of writing a tape which contains a machine code program. When the tape is fed in, the program automatically starts to execute.

Mr. J. R. Hunt has kindly written to us to point out that the same can be done for Basic programs. It is necessary to do the following, once the Basic program is in memory.

- a) Set up an output table for cassette output as well as output to the display, and activate this table.
- b) Use the PRINT statement to output the necessary commands to tape which are fed back in. For example PRINT "CLOAD" will output the CLOAD instruction to tape
- c) Return the output table to normal.

The idea can be extended further with a string of commands:

```
Print "MONITOR" (in case Basic is already in use - will give
                 an error message if it isn't)
PRINT "J"       (to run Basic)
PRINT          (reply to 'Memory size ?' question)
PRINT "CLOAD"  (to load program)
CSAVE "A"      (to save program to be loaded)
PRINT "RUN"    (to run the program that has been loaded).
```

It is necessary to insert delays between these commands to allow time for them to be processed when they are fed back in. The NULL command should be used for this. It is easiest to put all this into a little program at the end of the main Basic program, and run this when you want to create a self loading tape.

Below is a listing of a complete program which will create a self loading copy of itself, as an example. The tape produced can be fed in either after switch on, or when the computer is already in Basic. It can be made quite small by removing all the comments.

### LIST

```
100 REM ** MAIN PROGRAM
110 INPUT "Type a number";A
120 PRINT A"times"A"is"A*A
130 GOTO 110
30000 REM ** PROGRAM TO WRITE A SELF-LOADING TAPE
30010 REM * SAVE ADDRESS OF OUTPUT TABLE 0C73H
30020 TS=DEEK(3187)
30030 REM * SET UP OUTPUT TABLE AT 0D00H
30040 POKE 3328,101:REM 65H FOR CRT
30050 POKE 3329,111:REM 6FH FOR SRLX
30060 POKE 3330,0 :REM END OF TABLE
30070 REM * POINT TO NEW TABLE
30080 DOKE 3187,3328
30090 REM * SET END OF LINE DELAY
30100 NULL 100
```