

The Use of Apple KNOBS

KNOBS is a machine language subroutine that allows the use of two extra “control knobs” for S.A.M.’s voice. If we make rough analogies to the physical structures that produce speech, these KNOBS allow us to adjust the size of S.A.M.’s throat and his mouth. Doing this creates different voices without altering the pitch or speed of the speech (and, of course, you can still do this independently with S.A.M.).

KNOBS has to be loaded into memory just like RECITER. Follow the directions for loading RECITER (with the “BLOAD” command) that appear on page 6 of your S.A.M. manual. If you are using S.A.M. only, load in “KNOBS.S” at this time. If you are using RECITER as well, load in RECITER and then load in “KNOBS.R” at this time. Then return to BASIC.

To use KNOBS in your program, simply POKE values between 0 and 255 into the “throat” and “mouth” registers. A value of 128 in each register results in S.A.M.’s normal voice. POKEing higher numbers constricts the throat or mouth; POKEing lower numbers dilates the throat or mouth. Go ahead and experiment with different combinations of values and see what different voices you can get!

KNOBS from S.A.M.:

Throat = 33055

Mouth = 33056

KNOBS from RECITER:

Throat = 33055

Mouth = 33056

After the two POKES, the KNOBS subroutine is called by the CALL (address) statement in BASIC.

When using KNOBS from S.A.M., this is
CALL 28693

When using KNOBS from RECITER, this is
CALL 22357

Have fun with the KNOBS feature. Make sure you have loaded in the proper version of KNOBS depending upon whether you want to use S.A.M. or RECITER.

Here are a few sample voices to use from KNOBS:

Description	Speed	Pitch	Throat	Mouth
Elf	72	64	110	160
Little Robot	92	60	190	190
Stuffy Guy	82	72	110	105
Little Old Lady	82	32	145	145
Extra-terrestrial	100	64	150	200
S.A.M.	72	64	128	128

Example: To have your Apple talk like an extra-terrestrial using RECITER, you would use this program:

```
10      POKE 38142, 100      REM sets speed
20      POKE 38141, 64       REM sets pitch
30      POKE 33055, 150     REM sets throat
40      POKE 33056, 200     REM sets mouth
50      CALL 22357          REM calls KNOBS
60      SA$ = "I NEED TO PHONE HOME."
70      CALL 38131          REM calls RECITER
```