

Producing sound effects in ML using the OUT register.

This example shows how to write to the OUT register to produce sound. Whenever bit 11 of the OUT register is set, the internal beeper clicks on. To click it off, we write 0 in bit 11. This is done below; when C[X] counts upwards, bit 11 is set and cleared all along. It is, of course, also possible to explicitly turn bit 11 on by writing #800 to the OUT register. We exit the loop when C[X] wraps around to 0, which sets the carry bit. We also save the internal rpl pointers at the start of the program and restore these at the end of the program. The entries to do this are =SAVPTR and =GETPTRLOOP. Observe that the latter also exits to rpl (LOOP).

Sound effects of various kinds can be made from this example. You might want to extend the loop to two loops, one that keeps the sound turned off for a while and another that turns it on either a shorter or longer time period. You then make another loop over these two. By experimenting with the time the two inner loops run, you can make various pitched sounds. Better yet, make a subroutine out of the additional code and let the loop counters be passed in A[A] and C[A].

Attention! Remember to turn off bit 11 after you're done. This is accomplished below: when C[X] wraps around to 0 we write to the OUT register one last time.

Please mail me with any questions you might have.

Beep.s

CODE

GOSBVL	=SAVPTR	<i>Save pointers here</i>
C=0	X	<i>Reset C[X] to zero</i>
- C=C+1	X	<i>Start of loop, increment C[X]</i>
OUT=C		<i>Write C[X] to OUT register</i>
GONC	-	<i>C[X] still not wrapped to 0? goto start of loop</i>
GOVLNG	=GETPTRLOOP	<i>C[X] wrapped to 0, restore pointers and exit</i>

ENDCODE

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