

5.84. SOUND

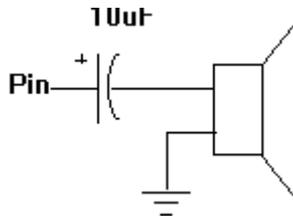
SOUND *Pin*, [*Note*, *Duration*{, *Note*, *Duration*...}]

Generates tone and/or white noise on the specified *Pin*. *Pin* is automatically made an output. *Pin* may be a constant, 0 - 15, or a variable that contains a number 0 - 15 (e.g. B0) or a pin name (e.g. PORTA.0).

Note 0 is silence. *Notes* 1-127 are tones. *Notes* 128-255 are white noise. Tones and white noises are in ascending order (i.e. 1 and 128 are the lowest frequencies, 127 and 255 are the highest). *Note* 1 is about 78.74Hz and *Note* 127 is about 10,000Hz.

Duration is 0-255 and determines how long the *Note* is played in about 12 millisecond increments. *Note* and *Duration* needn't be constants.

SOUND outputs TTL-level square waves. Thanks to the excellent I/O characteristics of the PIC MCU, a speaker can be driven through a capacitor. The value of the capacitor should be determined based on the frequencies of interest and the speaker load. Piezo speakers can be driven directly.



```
SOUND PORTB.7, [100,10,50,10]    ` Send 2 sounds
                                     consecutively to
                                     Pin7
```