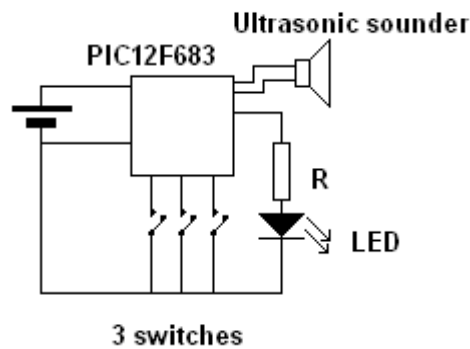


The aim of this short project is to produce a simple ultrasonic beacon.



Normally the PIC will be in the sleep state but when one of the 3 switches is pressed the system will turn on the LED and produce an ultrasonic tone from the sounder for a fixed period of time (T). After this time it will re-enter the sleep state and switch off the LED. Each switch produces a different ultrasonic waveform.

- | | |
|----------|--|
| Switch 1 | A 40KHz continuous tone |
| Switch 2 | A 40KHz continuous tone with a frequency modulation of 2KHz |
| Switch 3 | A sequence of 40KHz chirps. 10 cycle chirp 100 times a second. |

T will be 30 seconds.

The unit will be driven from a 3V battery.

A prototype will be constructed and the performance evaluated using test equipment (scopes etc.) in conjunction with an ultrasonic receiver.

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|---------|---|
| Task 1: | Research the PIC12F683 and other components. |
| Task 2: | Produce a complete circuit for the system which will allow a prototype to be constructed. |
| Task 3: | Outline the algorithms for system. Including how sleep state is entered and exited. |
| Task 4: | Produce working Code. |