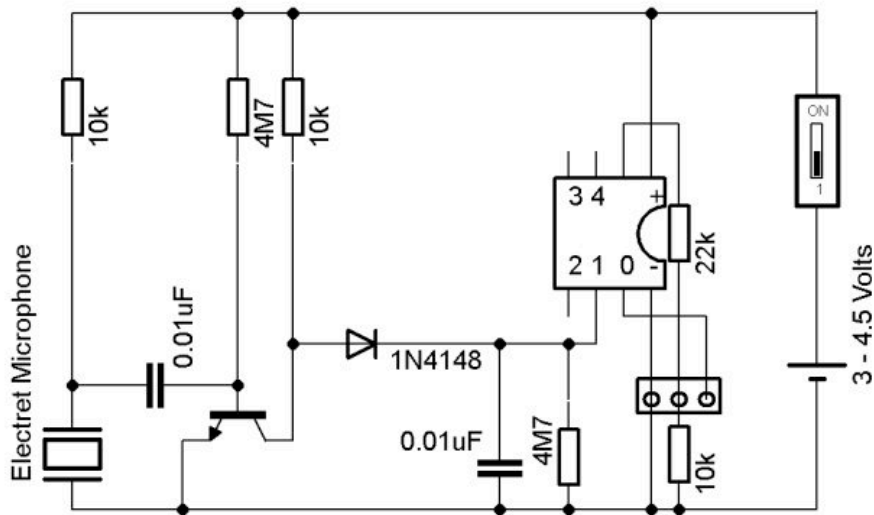


## Sound Level



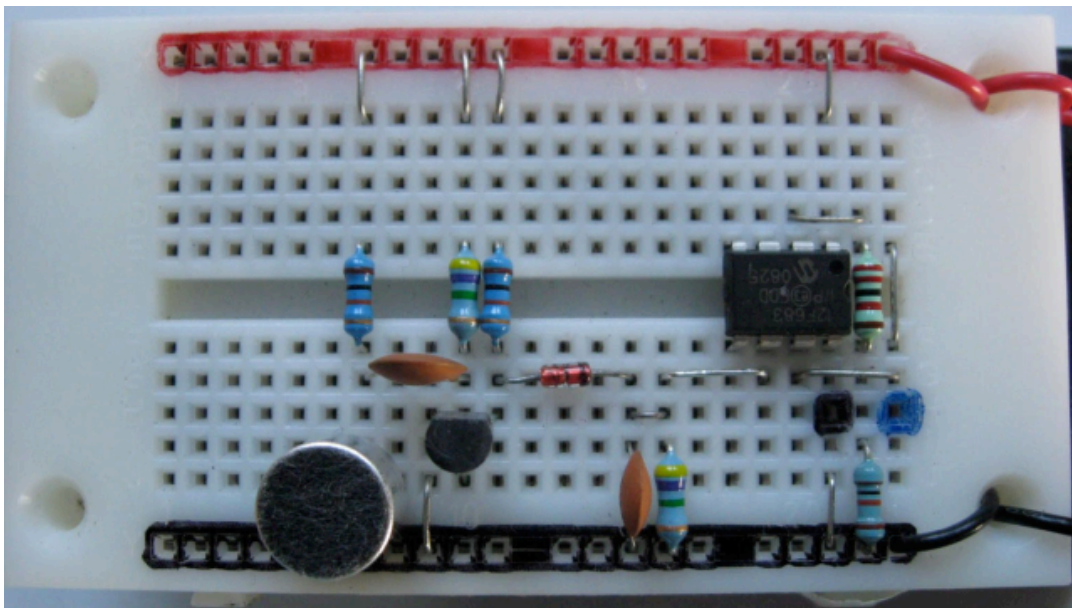
### Loopa:

```

readadc10 1, w1
sertxd ( "Sound level now = ", #w1, 13, 10 )
nap 4
goto Loopa
    
```

```

; Read the varying amplified adc voltage at pin 1
; Send a short txt message to the F8 screen at 4800 baud
; Short delay
    
```



- The left hand 10k resistor provides power for the electret microphone.
- Check the transistor is connected the right way around ! Make sure there is approx half supply voltage at the collector ( junction of the 10k and the diode )
- The transistor is a simple amplifier. Small AC voltages from the electret mic are fed to the base of the transistor via the 100nF ceramic capacitor. The bigger changing collector voltage varies Up and Down with the sound waves. The Peak changing collector voltage is rectified or 'captured' via the diode, smoothed and held onto by the capacitor and 4M7 resistor filter network at the input to pin 1.
- Note: There will Always be a fixed DC voltage on pin 1 of the picaxe. This will give a constant 'baseline' reading at all times even with NO sound. Sound Level will be the peak change in the w1 reading. Use software average and capture peak sound levels.
- If w1 > average type statement to detect hand claps or sudden sounds
- Look up the Let statement and do some math to create ave and peak sound levels
- Use the F9 data plot template to plot the peak, average, trigger and raw sound levels