

an introduction to building neural networks with analog electronics

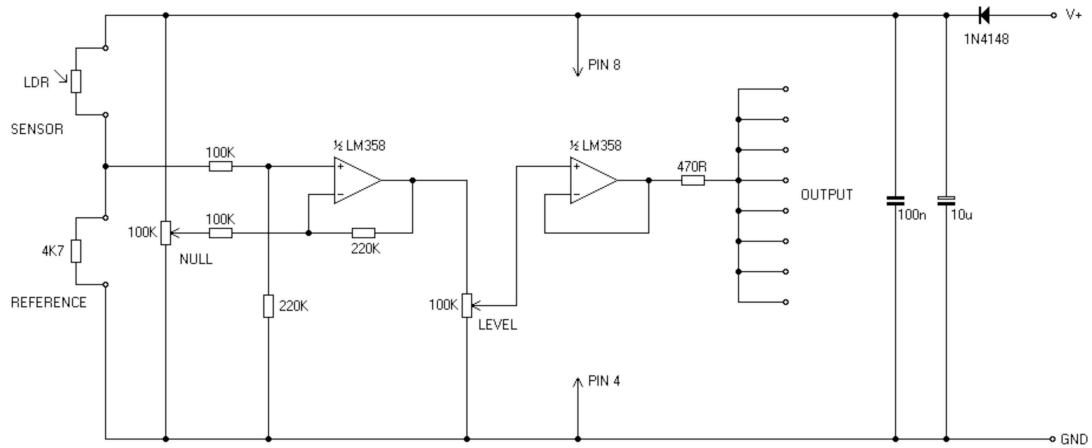
robert davis

<http://homepages.gold.ac.uk/rdavis/>

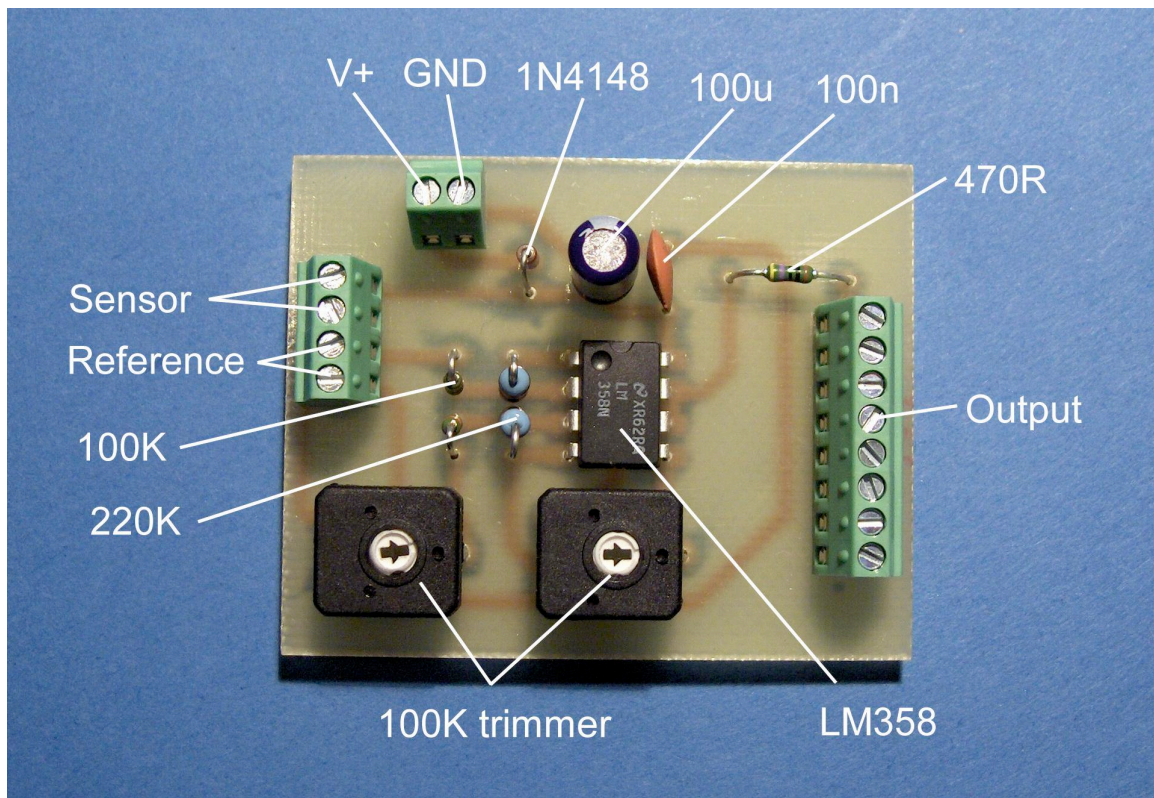
usman haque

<http://www.haque.co.uk>

Input

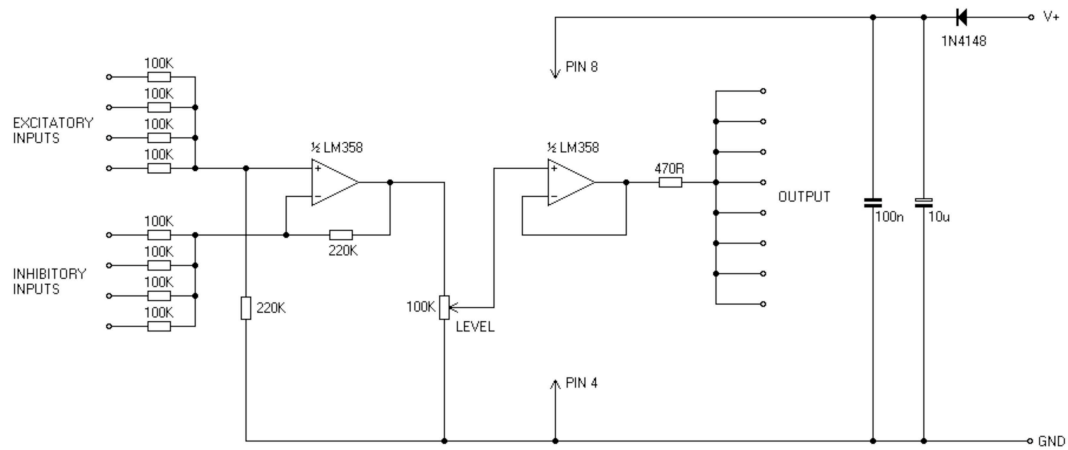


Sensory input circuit schematic

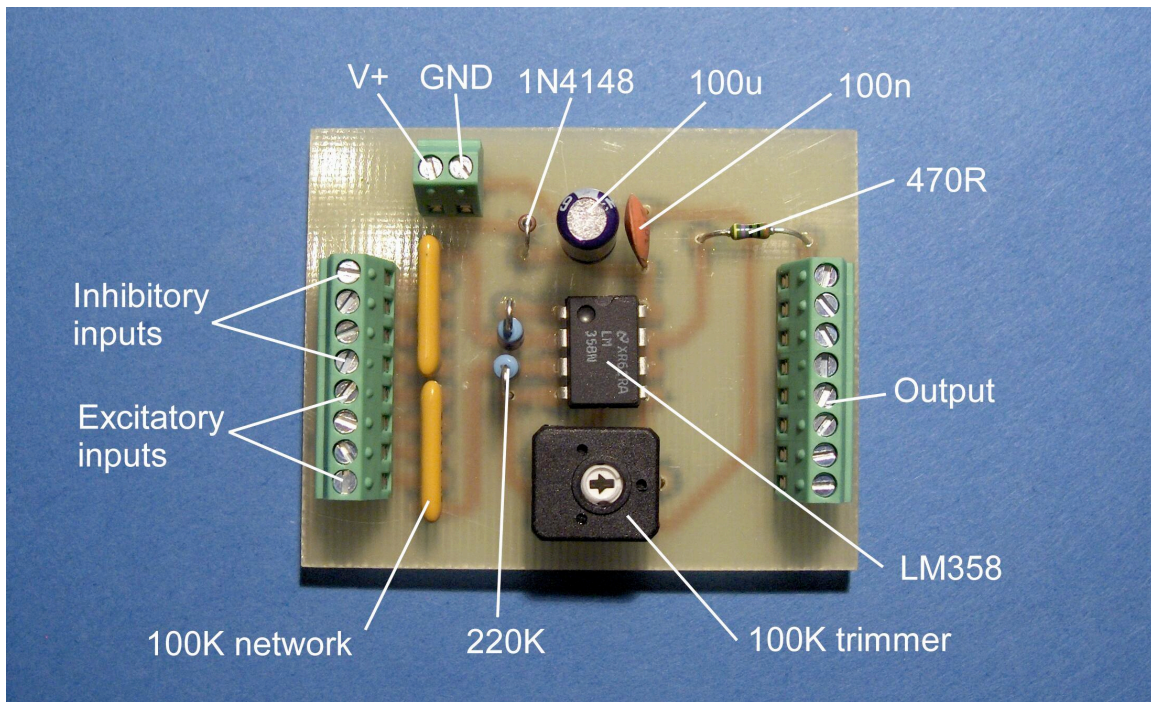


Sensory input circuit layout

Neuron

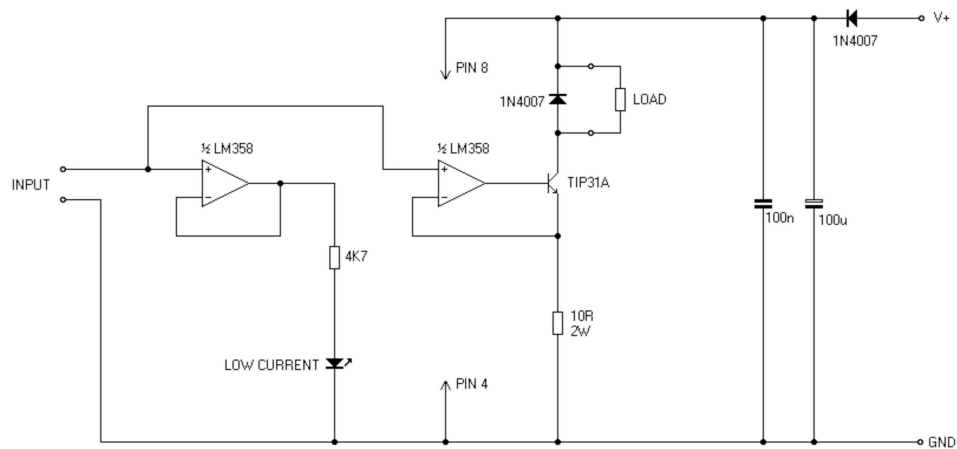


Neuron circuit schematic

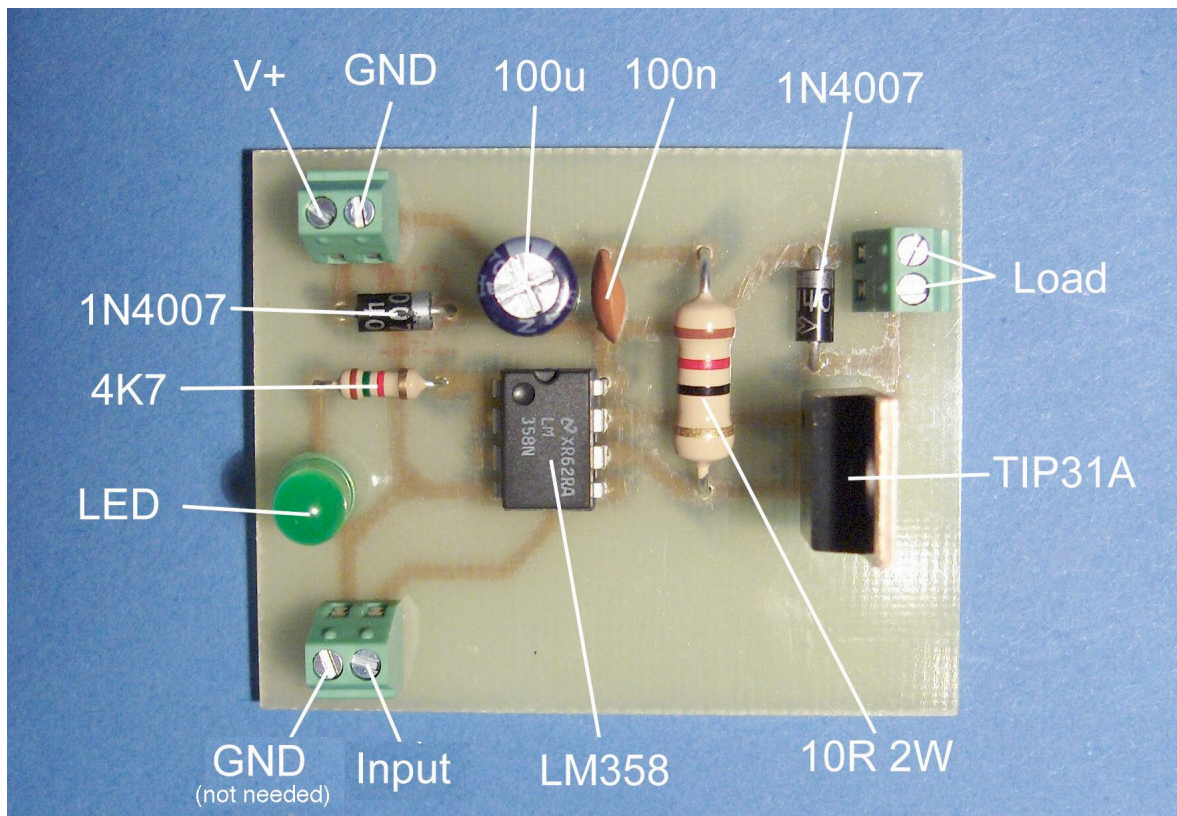


Neuron circuit layout

Output



Output driver circuit schematic



Output driver circuit layout

Bill Of Materials

Input board

Terminal Block 8 way	1	3041438*
Terminal Block 2 way	1	3041359*
Terminal Block 4 way	1	3041414*
LM358N	1	9486836*
1N4148	1	9843680*
100K resistor	2	9341129*
220K resistor	2	9341552*
470R resistor	1	9341943*
100K trimmer	2	1227542*
100n	1	9411887*
10u 16v	1	9451056*
4K7 resistor	1	9341951*
LDR	1	3168335*

Neuron board

Terminal Block 8 way	2	3041438*
Terminal Block 2 way	1	3041359*
SIL 100K resistor network	2	9356070*
LM358N	1	9486836*
1N4148	1	9843680*
220K resistor	2	9341552*
470R resistor	1	9341943*
100K trimmer	1	1227542*
100n	1	9411887*
10u 16v	1	9451056*

Output board

Terminal Block 2 way	3	3041359*
LM358N	1	9486836*
1N4007	2	9565051*
100n	1	9411887*
4K7 resistor	1	9341951*
10R 2W resistor	1	9338039*
TIP31A	1	9294333*
Low current LED	1	1142561*