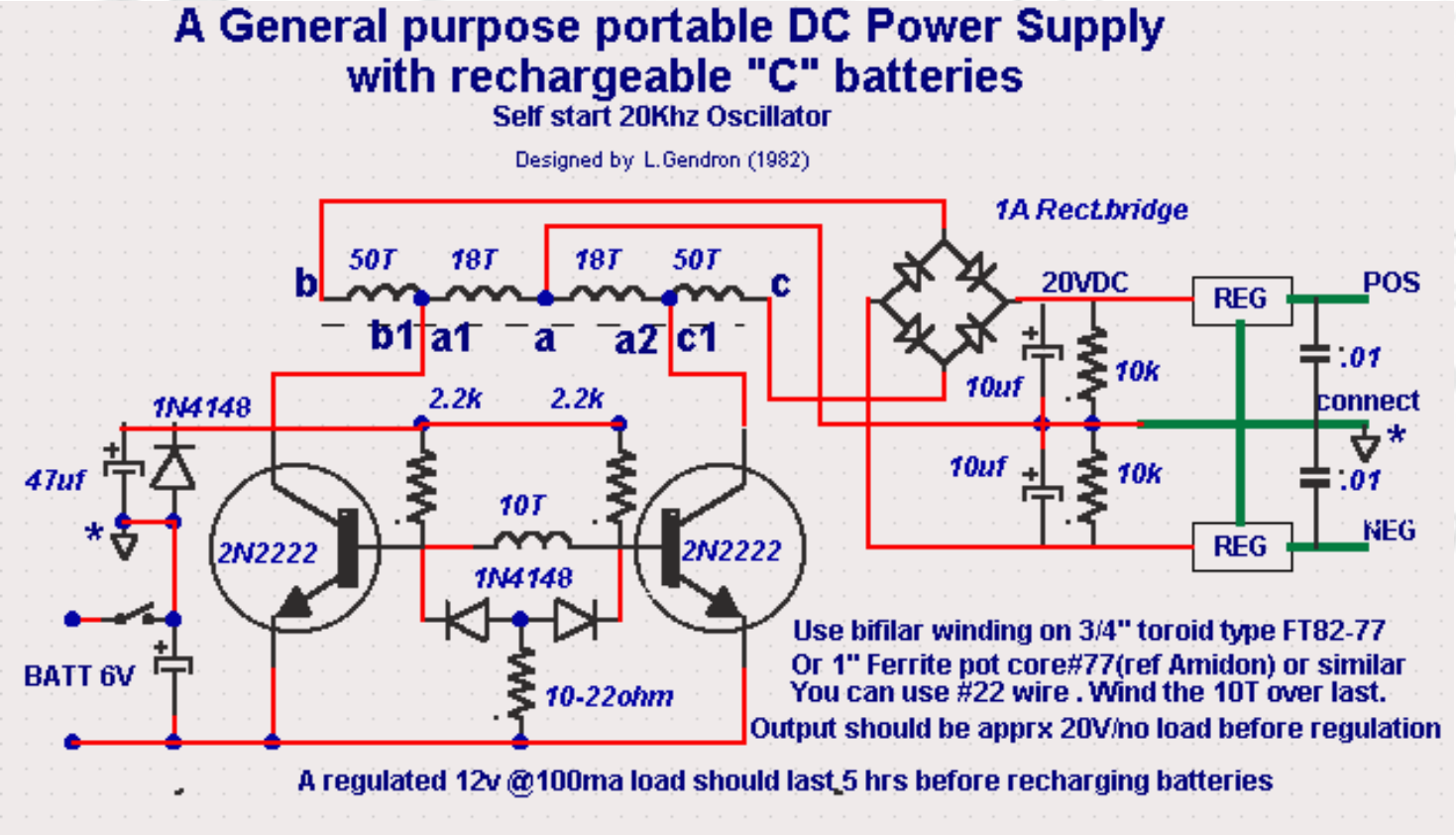
Handy Dandy Little Circuits

Handy Dandy Little Circuits #11

How many times have you wished for a voltage and current source higher than a 9V battery but without the bulk of several large batteries to lug around? This little DC to DC converter is just the thing. Actually by changing the amount of turns and larger transistors you can put out much higher voltage and current, naturally at the expense of battery life. Wire from an old transformer can be used as long as the insulation is not damaged. You can also use more or less batteries for different voltage outputs, experimenting is all the fun in building such a circuit.

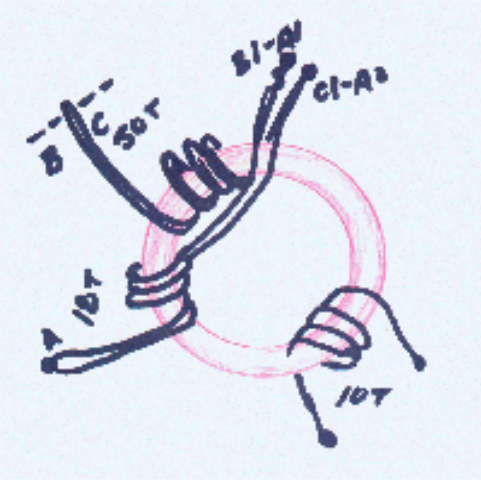


Winding the transformer is not difficult but requires some patience. For the 50 turn winding use about 10 feet of wire. Locate the centre and fold into two strands of wire, start with the loop end allowing three inches free and wind 50 turns evenly around the coil. When that's finished cut the loop end and tag each end "B" and "C" respectively. With an ohmmeter identify the other end of each wire and tag as "B1" and "C1".

Next, using the same procedure, select about 4 to 5 feet of wire. Fold in two and wind 18 turns on top of the first layer. DO NOT CUT THE LOOP END. This is tag "A", which is the GROUND return (see schematic). The two other ends of the 18 turn winding will be tagged "A1" and "A2". Allow at least two inches free. Cut and and then remove the insulation at the end of each wire to ensure a good connection. Then temporarely connect A1 and B1, and A2 with C1. The next ten turns is the last, with each end connected to the base of the transistors (see schematic).

To check apply power with batteries to the connection of A1 and A2, and or the transistors base

coil winding connection. If there's no oscillation or voltage reverse things should be working.



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