DC MOTOR SPEED CONTROLER

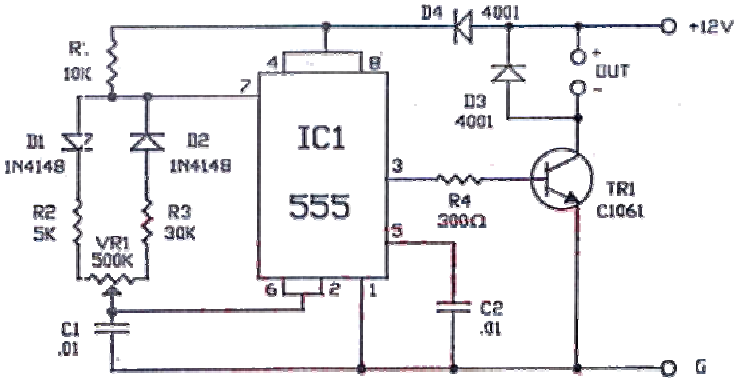
FK804

Wow! Now for any project with a DC motor in it you can add this cool speed controller. With only a handful of components and an IC.
Suits **age 12+**

IC1 oscillates the frequency at 264 Hz (calculated from R1, R2, R3, VR1 and C1) VR1 is used to adjust the duty cycle of that frequency.

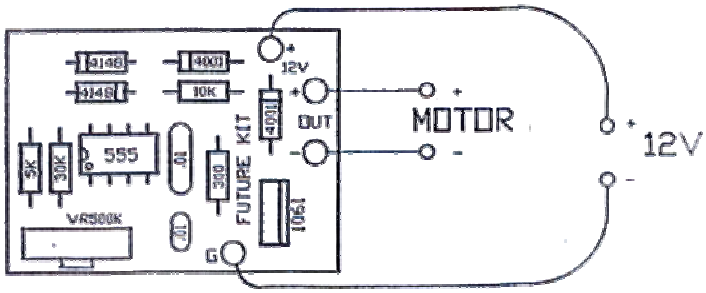
The network of components R1, R2, R3, VR1 and C1 are set up to give a “sea-saw” effect. This changes the Duty cycle of the 555 (IC1) If the Positive duty is ore than the negative duty the motor slows down.

The frequency is transmitted from leg 3 of IC1, through R4 to the base of TR1 which relates this frequency to a higher current needed to run the motor.



In the assembly of this kit, like most others in the ”Future Kit” range, it is best to start by first checking that you have all the components. Then attach them in order of their height from the board. I.e. resistors first and so on. The last items that should be attached however should always be any semiconductors including transistors. This avoids unnecessary heat on sensitive components.

The PCB or ‘printed circuit board’ will be marked already for the components. If polarity is essential then this is marked also. Values of components marked are brief and because of the translation are sometimes incorrect, therefore it is best to double check before placing.



Component list:

R1	10k (10,000 ohm)
R2	5k7 (5,000 ohm)
R3	30k (30,000 ohm)
R4	300 ohm
C1 & 2	0.01µF 50v green cap
D1 & 2	4148 signal diode
D3 & 4	1N4001 power diode
TR1	C1061
IC1	NE555 timer chip
VR1	Variable resistor 500K ohm

Suits **age 12+**

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