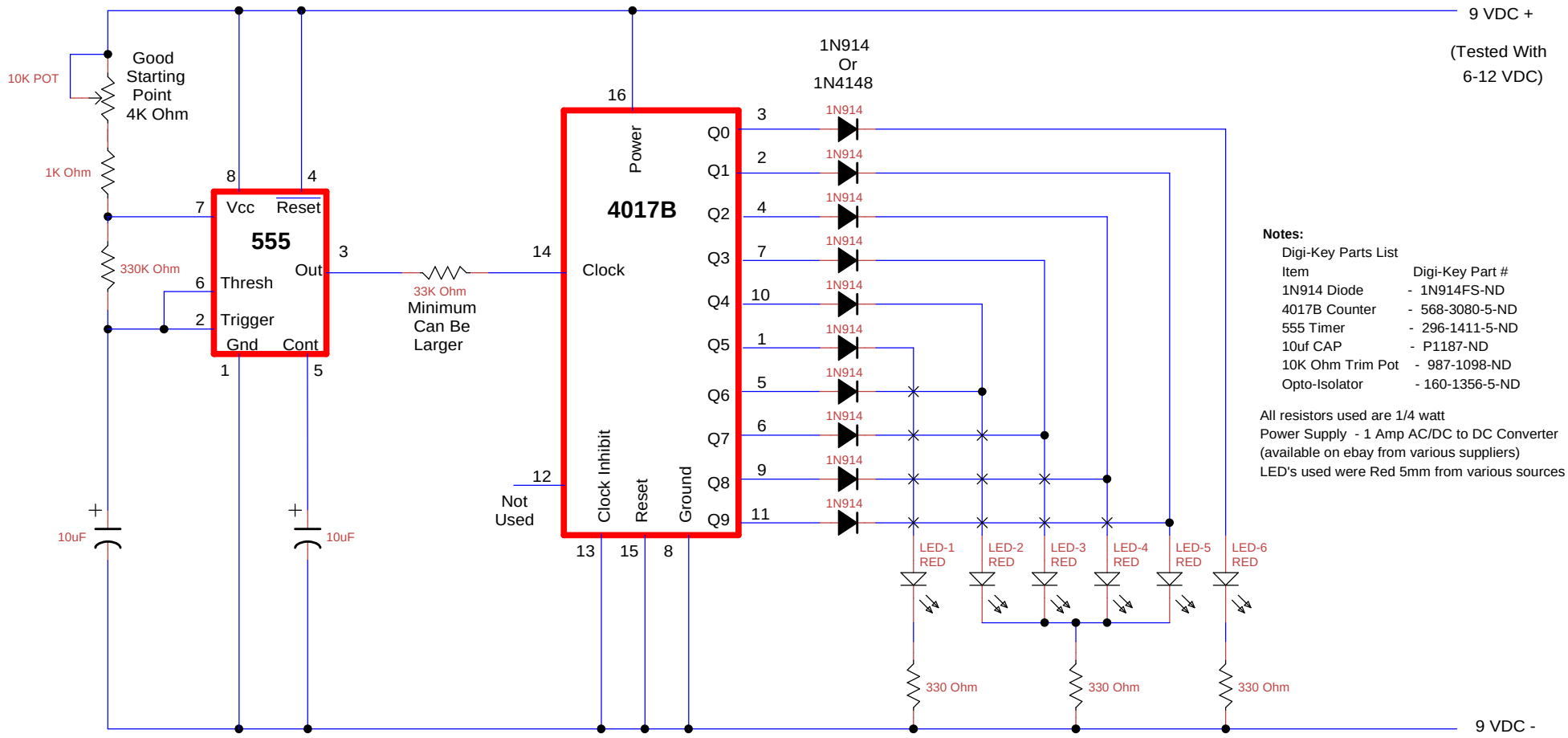
Knight Rider Flasher Circuit



Notes:

Digi-Key Parts List

Item	Digi-Key Part #
1N914 Diode	- 1N914FS-ND
4017B Counter	- 568-3080-5-ND
555 Timer	- 296-1411-5-ND
10uf CAP	- P1187-ND
10K Ohm Trim Pot	- 987-1098-ND
Opto-Isolator	- 160-1356-5-ND

All resistors used are 1/4 watt
Power Supply - 1 Amp AC/DC to DC Converter
(available on ebay from various suppliers)
LED's used were Red 5mm from various sources

KNIGHT RIDER - (Notes from original circuit designer)
In the Knight Rider circuit, the 555 is wired as an astable oscillator.
It can be adjusted to give the desired speed for the display.
The output of the 555 is directly connected to the input of a Johnson Counter (4017B).
The input of the counter is called the CLOCK line.
The 10 outputs Q0 to Q9 become active, one at a time, on the rising edge of the waveform from the 555.
Each output can deliver about 20mA but a LED should not be connected to the output without a current-limiting resistor (330R in the circuit above).
The first 6 outputs of the chip are connected directly to the 6 LEDs and these "move" across the display.
The next 4 outputs move the effect in the opposite direction and the cycle repeats.
The animation above shows how the effect appears on the display.
Using six 3mm LEDs, the display can be placed in the front of a model car to give a very realistic effect.
The same outputs can be taken to driver transistors to produce a larger version of the display.

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