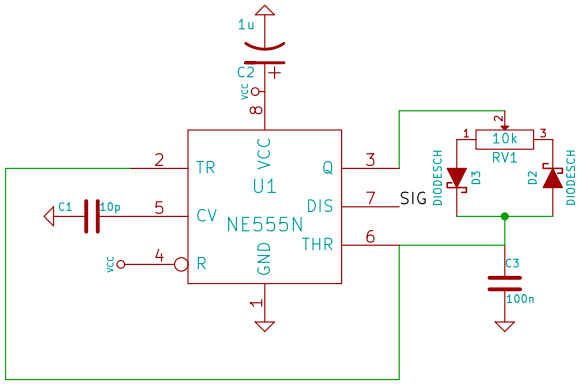
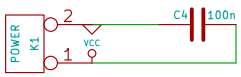
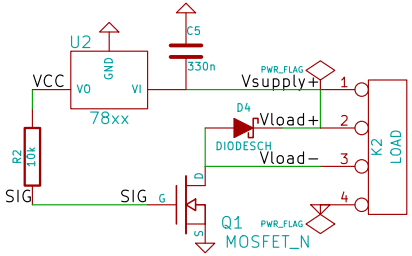


Do not place K1 if U2 connected



For 78xx, use 7805 or any voltage regulator compatible with chosen 555 chip, or with a jumper from VI to VO if Vsupply+ = Vcc or omit entirely if 555 power supplied from K1. Place C5 only if using 78xx VR.



PCB traces sized for 4A max power.
Check connector current ratings.

D4 not required for resistive loads

All values subject to application requirements and datasheet limitations and requirements. C2 and C4 types and values are specified in 555 datasheet.

Rectifier diodes may generally be used for D4. Schottky diodes for D2/D3 will give better frequency stability across the PWM range than rectifer diodes.

RV1 is linear. Pads provided to support either typical 0.2" potentiometer or 0.1" trim potentiometer.

Increased RV1 or C3 value reduces frequency:
Frequency ≅ 1.44 / (RV1 * C3)

Check datasheets for all specific parts you choose to ensure that all specifications will be met.

Use (abuse?) of discharge (pin 7) for signal in order to keep PWM frequency stable while setting duty cycle with potentiometer and two diodes inspired by a design by Rick Bickle:
http://www.dprg.org/tutorials/2005-11a/

File: flex-pcm-controller.sch	
Sheet: /	
Title: Flexible PCM Controller	
Size: USLetter Date: 22 oct 2014	Rev:
KiCad E.D.A.	Id: 1/1