**Description and build information, 3 or 4 Channel power driver, A2D or IR signal.**

This is one PCB, with a dual purpose. It can either be built as an A2D controlled 3 channel power driver (with a digital input too, such as coin-operated, push button, PIR trigger etc. **OR** as a 4 channel Infra Red receiver.

Its main use is for driving the 12 volt LED tapes that are becoming increasingly popular but it can also be used to drive strings of 1 watt power LEDs (usually wired as 3 in series with a suitable current limit resistor per string). If you wish to drive 3 watt strings (700mA +) then you can swap the driver transistors for higher rated E-line devices.

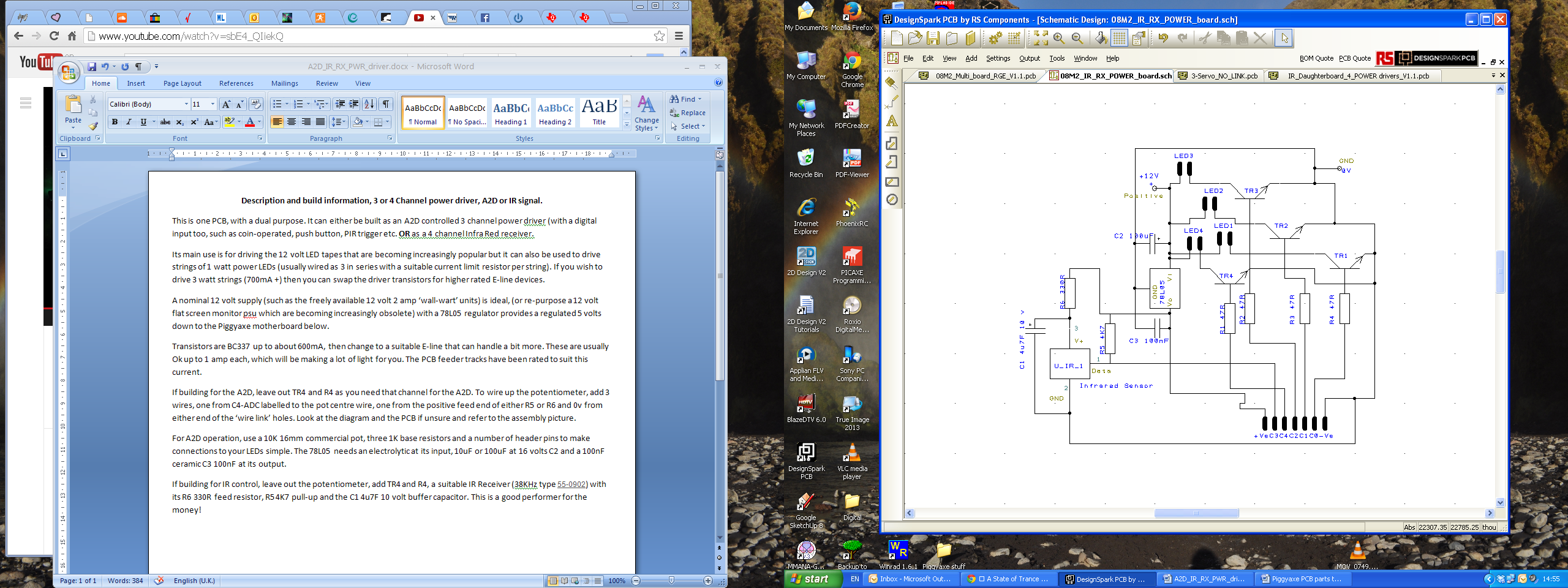
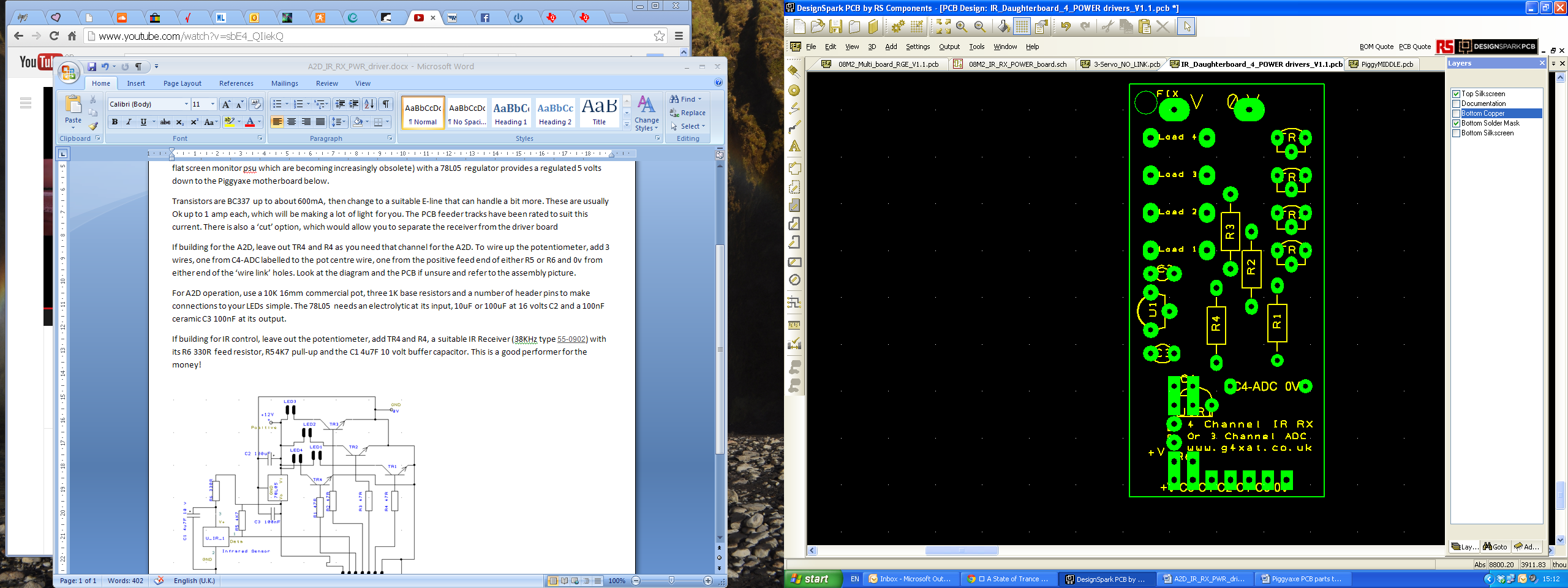
A nominal 12 volt supply (such as the freely available 12 volt 2 amp ‘wall-wart’ units) is ideal, (or re-purpose a 12 volt flat screen monitor psu which are becoming increasingly obsolete) with a 78L05 regulator provides a regulated 5 volts down to the Piggyaxe motherboard below.

Transistors are BC337 up to about 600mA, then change to a suitable E-line that can handle a bit more. These are usually Ok up to 1 amp each, which will be making a lot of light for you. The PCB feeder tracks have been rated to suit this current. There is also a ‘cut’ option, which would allow you to separate the receiver from the driver board

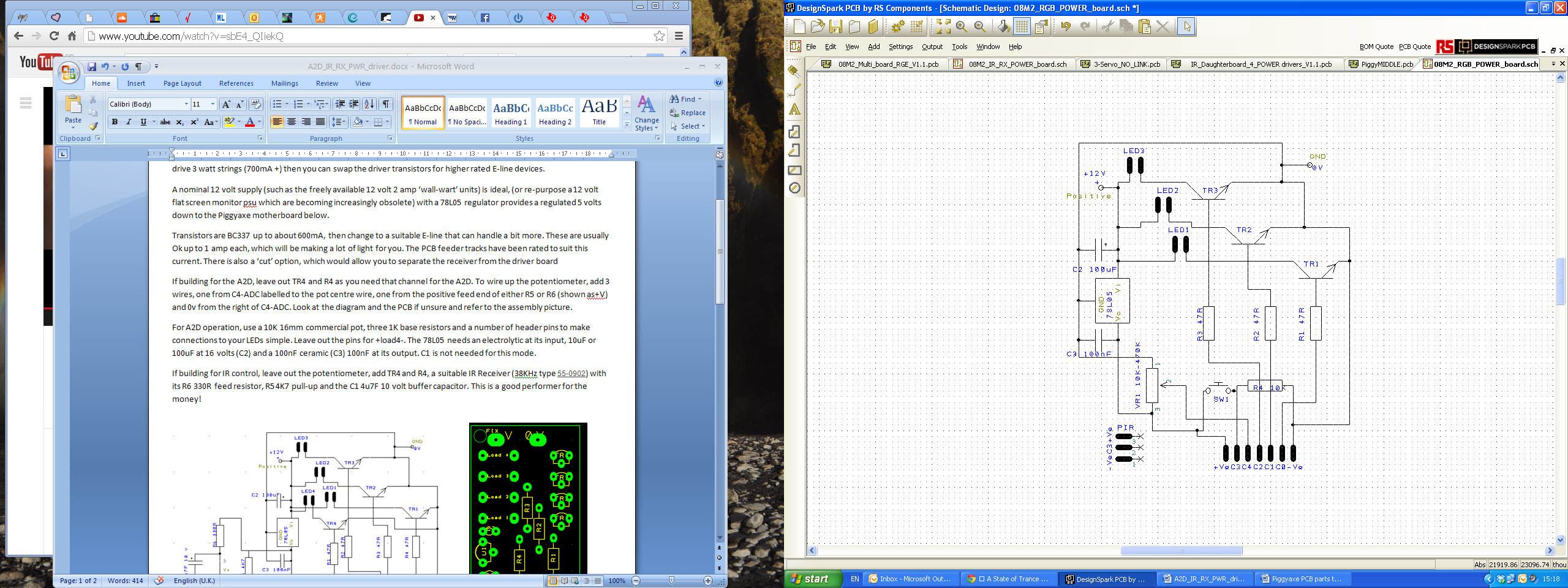
If building for the A2D, leave out TR4 and R4 as you need that channel for the A2D. To wire up the potentiometer, add 3 wires, one from C4-ADC labelled to the pot centre wire, one from the positive feed end of either R5 or R6 (shown as+V) and 0v from the right of C4-ADC. Look at the diagram and the PCB if unsure and refer to the assembly picture.

For A2D operation, use a 10K 16mm commercial pot, three 1K base resistors and a number of header pins to make connections to your LEDs simple. Leave out the pins for +load4-. The 78L05 needs an electrolytic at its input, 10uF or 100uF at 16 volts (C2) and a 100nF ceramic (C3) 100nF at its output. C1 is not needed for this mode.

If building for IR control, leave out the potentiometer, add TR4 and R4, a suitable IR Receiver (38KHz type [55-0902](http://www.rapidonline.com/Electronic-Components/2-4-5-5v-Ir-Reciever-Module-38khz-55-0902)) with its R6 330R feed resistor, R5 4K7 pull-up and the C1 4u7F 10 volt buffer capacitor. This is a good performer for the money!

Above, the diagram for the 4 channel IR receiver and right, the component placement for both.



Above, diagram for the 3 channel Power driver with ADC and digital input.