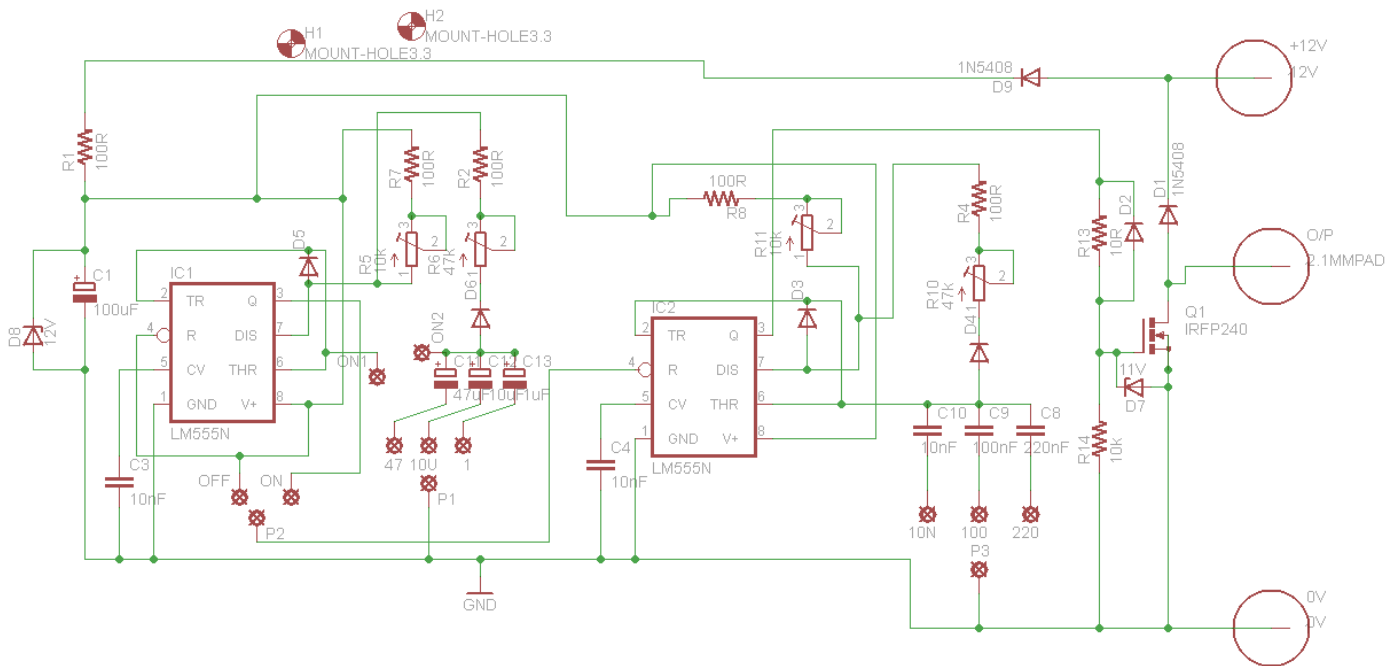


DAVE LAWTON PWM KIT INSTRUCTIONS

Parts List

R1	100R/ 2W	1off
R2, R4, R7 & R8	100R/ 0.25W	4off
R5 & R11	10k pot	2off
R6 & R10	47k pot	2off
R13	47R	1off
R14	10k	1off
C1	100uF	1off
C3, C4 & C10	10nF	3off
C8	220nF	1off
C9	100nF	1off
C11	47uF	1off
C12	10uF	1off
C13	1uF	1off
D1 & D9	1N5408	2off
D2-D6	1N4148	5off
D8	12V zener	1off
D7	11V zener	1off
Q1	IRFP240	1off
IC1 & IC2	555	2off
DIL sockets	8 pin	2off
Meter		1off
Terminal Post (Red)		2off
Terminal Post (Black)		2off
4P3W switch		2off
DPDT min toggle		1off
SPST (10A)		1off
Fuse holder		1off
6A fuse		1off
Switch Knob (pointy one)		2off
Pot Knob (round one)		4off
PCB		1off
Box		1off
Blue crimp receptacle connector		4 off
Blue piggy back crimp connector		1 off
3mm x 12mm bolt		4 off
3mm nut		9 off
4mm solder ring terminal		4 off
Insulating washer		1 off

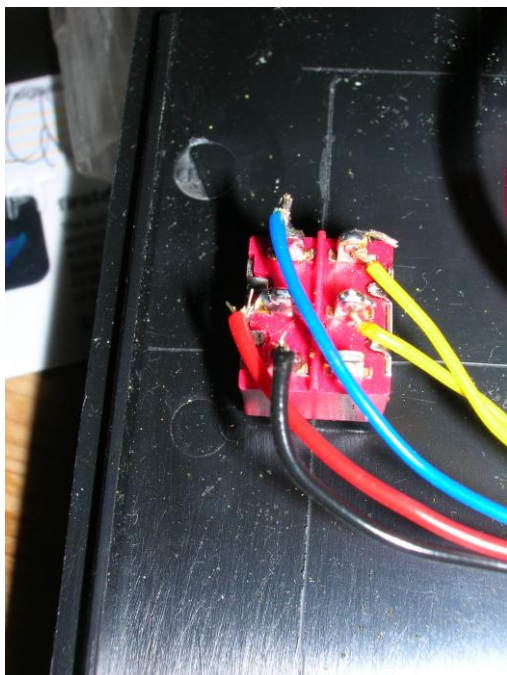
Circuit Diagram



Please excuse the symbolisation of the switches, the EagleCad programme doesn't have any appropriate devices

The above addition to the original circuit diagram has been found to cure a problem experienced by some customers when using this PWM. This modification takes the gating side of the circuit fully 'out of the loop' by adding an extra set of contacts and switch to the existing circuit.

The previously crudely modified PCB has now been superseded by a new custom made one to accommodate all the problems found with these units in the field. The following photo's show how things look when installed.



This photo shows the original SPDT gating switch changed for a DPDT version allowing the normally 'open' part of the circuit to be bridged and the gating side of the circuit to function as normal.

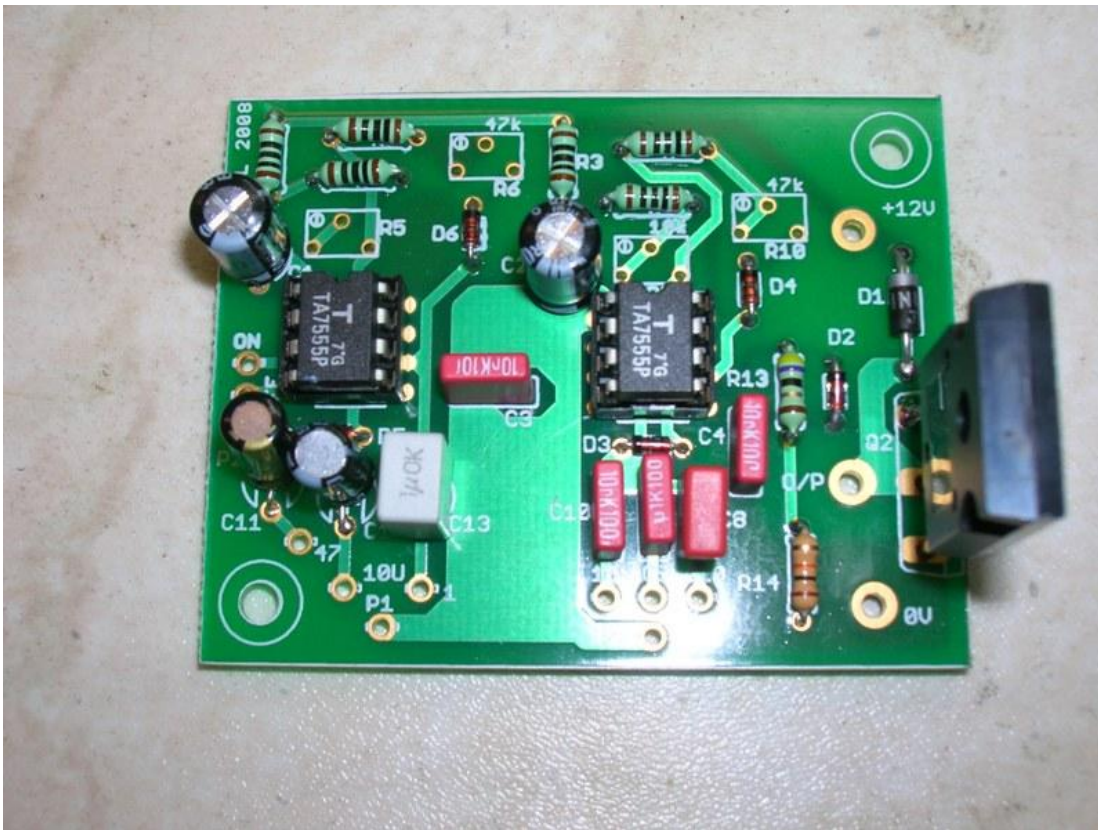
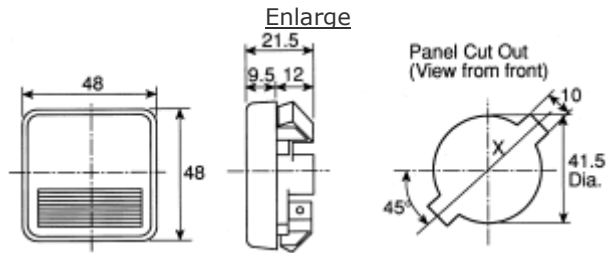
Instructions

1. As with any kit first check and identify all components are present. The picture below is of a prototype board and the currently supplied components may differ.
2. I'm sure most people will be readily able to assemble the PCB. I normally start with the resistors/ diodes etc and work my way up in terms of component size. Always check diode and capacitor polarity against the screen print.
3. Next wire up the various switches/ potentiometers. I use lengths of heatshrink to keep things tidy. Note you do not need to connect up three wires to the potentiometers. Connect one end of the potentiometer to the track at the potentiometer. I used the trimmer symbol on the PCB simply because it was convenient.
4. The second picture shows how we lay out the controls in the box we supply and the details immediately below show the details of the hole you'll need to cut out to accommodate the meter.

Note you'll need to adjust the position of the tab washer on the 3P4W switch to limit the rotation to just three positions. We wire up Tab A and tabs 1,2 & 3.

Snap in fixing	
Panel Thickness	'X' mm
0.6 to 0.9	50.0
1.0 to 1.4	51.0
1.5 to 1.9	51.5
2.0 to 2.4	52.5
2.5 to 3.0	53.5

DIMS FOR GUIDELINES ONLY



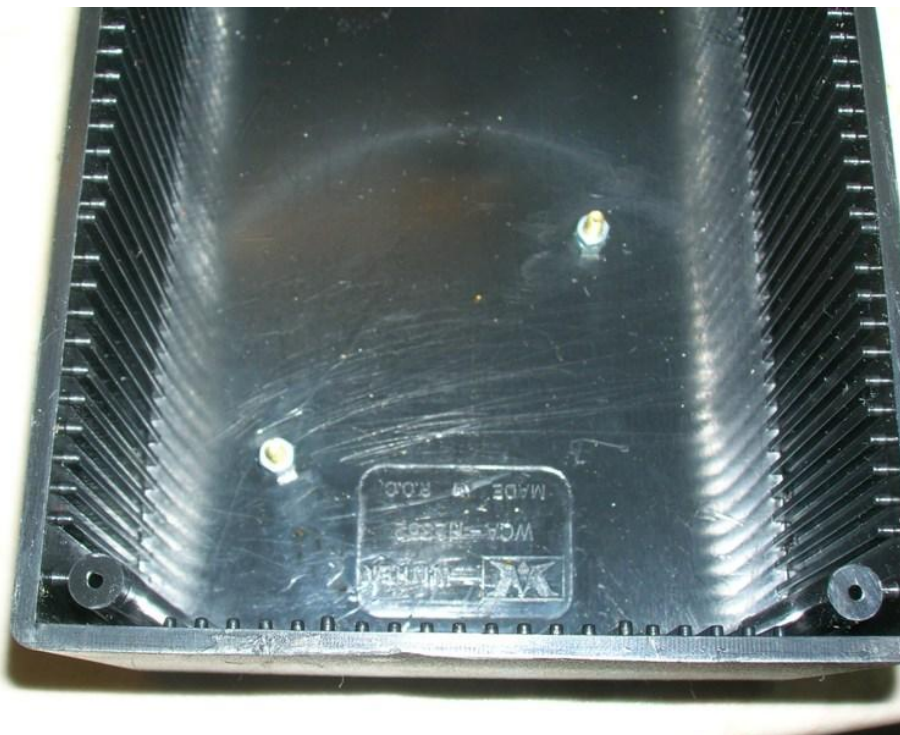


5. We supply a number of crimp connectors and solder ring terminals with the kit. We prefer to connect to the 4mm input/ output terminals using the 4mm ring terminals, you can equally solder direct to these if you wish.





6. The next picture shows the PCB mounting arrangement. This consists of 2off 3mm bolts secured with 2off nuts each to act as spacers.



7. Finally connect a piece of aluminium sheet (not supplied) to the MOSFET using 1off 3mm bolt and washer c/w insulating washer. As can be seen from the next picture we fold this piece of aluminium around and secure the free end using a 3mm bolt secured with a nut acting as a spacer and then the aluminium strip and then secured with another nut. This keeps the strip off the plastic to allow better cooling.



These are our MkIII set of instructions. If you feel they need adding to in any way please feel free to contact us at sales@courtiestown.co.uk