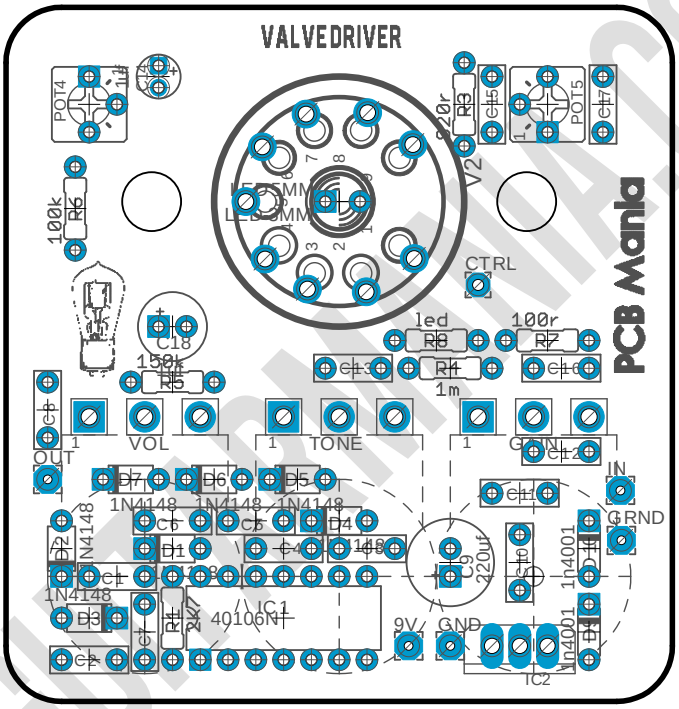
Valve Driver

Based on the BoobTube circuit including an internal voltage multiplier.

Tube Overdrive

By PCB Guitar Mania

Project link



The Valvedriver is specially for those who wants to experiment for first time with tubes without exposing themselves to voltages up to 400v. Although we encourage you to take extra precautions, this project works at 70v aprox.

A very versatile project that will allow you to build from a clean tube amplifier to a middle gain overdrive.

- Designed to use on board potentiometers. Keep it tidy without using cables!
- Versatile Project, allows you to build a clean tube version, as well as the overdrive one.
- Internal voltage multiplier
- Pedalboard friendly, runs on 9v.

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BOM

Variable parts

Part	Super Clean	Clean	Overdrive	Description
Resistors				
R1	2K7	2K7	2K7	
R3	820r	Jumper	Jumper	
R4	1m	1m	1m	
R5	200k	180k	220k	
R6	Jumper	150k	190k	
R7	100k	100k	100k	
R8 LED	2K2 - 3K3	2K2 - 3K3	2K2 - 3K3	
Capacitors				
C1	47n	47n	47n	**80v-100v rated!**
C2	47n	47n	47n	**80v-100v rated!**
C3	47n	47n	47n	**80v-100v rated!**
C4	47n	47n	47n	**80v-100v rated!**
C5	47n	47n	47n	**80v-100v rated!**
C6	47n	47n	47n	**80v-100v rated!**
C7	1n	1n	1n	
C8	47n	47n	47n	**80v-100v rated!**
C9	220uf	220uf	220uf	Electrolytic
C10	47n	47n	47n	**80v-100v rated!**
C11	100n	22n	22n	
C12	100n	22n	10n	
C13	100n	47n	10n	
C14	x	1uf	1uf	Electrolytic
C15	x	150n	x	
C16	47n	47n	47n	**80v-100v rated!**
C17	x	150n	x	
C18	1uf	x	x	Electrolytic
Pots				
GAIN	50K B	100K B	100K B	
VOL	100K A	100K A	100K A	
TONE	100K B	100K B	100K B	
POT4 trimpot	10K	10K	10K	
POT5 trimpot	250K	10K	10K	
Valve				
V1	12Au7	12Au7	12AT7 - 12AX7	

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Common parts

IC	
IC1	40106N
IC2	uA7806
Diodes	
D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N4148
D6	1N4148
D7	1N4148
D9	1n4001
D10	1n4001
LED-3MM	LED3MM

A tube protector like this one would be really useful not only to avoid potential damages on the valves, also would make much more easier the task of removing and changing the tubes.

Don't forget to order a ceramic noval socket for your tube. The ones with the hole inside are perfect to fit your led and illuminate the tube.

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General Building notes

This project has basically to big different sections, the Power supply and the effect part. Although this build is super versatile and allows you to play with many of the components values on it it's a must to respect and keep the power supply section as it is. Don't forget that the valve is working with more than 70v, take that in mind and take all the proper security measures.

The rest of the project is super versatile, and feel free to experiment with different values of the components till you make the one sounds the best for you.

Different tubes, different models or manufacturers could have a huge impact on your tone.

You could mount the **uA7806** to the enclosure to reduse the heat, or use a proper heat sink.

Building order

To populate the PCB it's recommended to follow this order.

1. Resistors & diodes
2. IC Sockets (set up the proper IC at last)
3. Capacitors, starting with the smaller ones and the ceramic ones.
4. Electrolytic capacitors (always check the polarity)
5. Transistors
6. Wires
7. Potentiometers
8. Off board wiring

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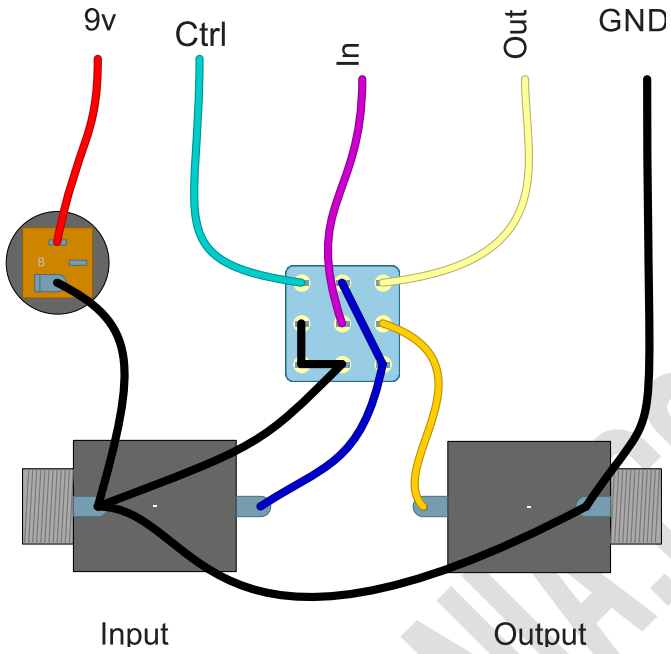
Off Board Wiring



Drilling the enclosure

This Project has been designed to fit into a 125B enclosure type. However we found that with some enclosures from different manufacturers this board might not fit properly. We recommend to use a 125BB in stead.

Check the Attached “Drilling templates” to drill the box properly. The files are on Scale 1:1, ready to print in a A4 page.

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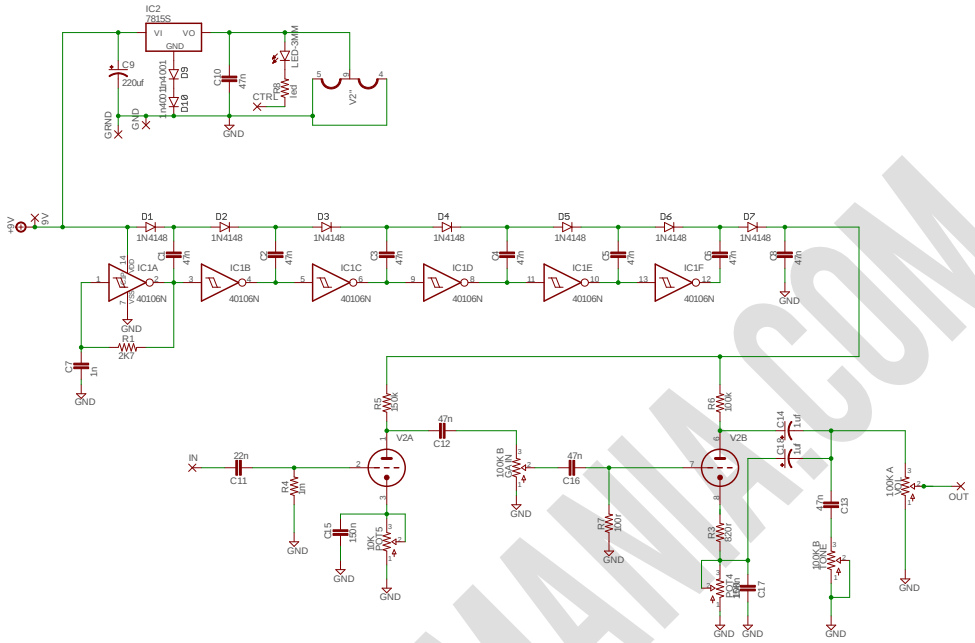
Schematic



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