Warped Plexi

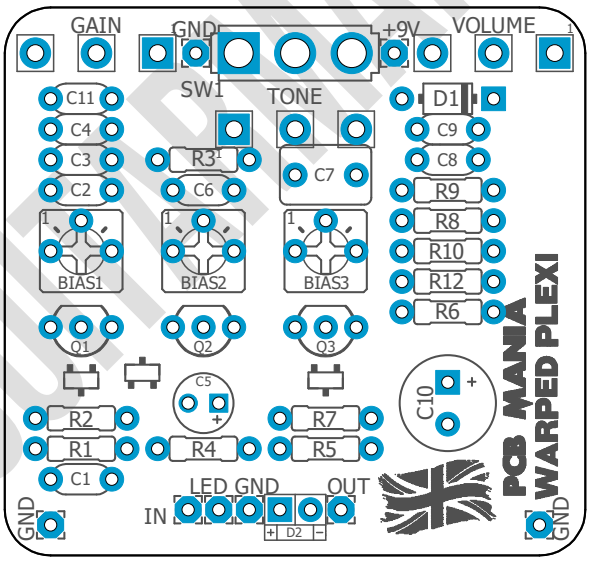
Based on:
Wampler Plexi Drive ™.
Effect type:
Marshall voiced overdrive
Build difficult:
Average

Amount of parts:
Low, total 34 components
Technology:
JFET cascade
Power consumption:
9V(22mA)

Enclosure type:
1590b
Get your board at:
Warped Plexi
Get your kit at:
Das Musikding (Europe)

Project overview:

The Warped Plexi is based on the three knob Version of Wampler's Plexi Drive ™. Not only one of the Pedals that made Brian Wampler pedal brand famous, it also is one of the best sounding Marshall ™ in a Box pedals out there. I think there is no need to keep talking about the very British sounding tonal options of this Overdrive. There are plenty awesome demos about it on Youtube. ☺



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Introduction

For this design we decided to keep it loyal to the original Plexi by Wampler, we just added another bass boost option for the toggle, having the stock version, stock bass boost, and the third position with a 220n to give you a deeper boost on the bass frequencies.

Just wanted to mention, that the tone potentiometer is quiet powerful, so don't get fooled by the fact that it's just the three Knob version. This PCB it does not require many parts, what makes it either a quick and rewarding build or a nice entrance in the world of building DIY Stomp boxes.

One thing to keep in mind. J201 getting harder and harder to source. Use a trusted shop to get them. In all our projects we always give you the option to choose in between the standard transistor package or the SMD version, which we strongly recommend to go for, it has shown to be much reliable in terms of quality and availability. One final recommendation is to watch the size of the 470uf electrolytic capacitor when you're sourcing the parts by yourself. They can be really tall what requires some creativity to make them fit in a small enclosure

Controls

- Gain
- Volume
- Tone
- Bass Boost Toggle

Bill of materials

Resistors	
Part	**Value**
R1	1M
R2	1K
R3	1K
R4	1K
R5	10K
R6	100K
R7	1K
R8	15K
R9	15K
R10	10R
R12	2K2

Capacitors	
Part	**Value**
C1	47p
C2	470p
C3	2n2
C4	220p
C6	22n
C7	1u
C8	2n2
C9	10n
C11	220n

Electrolytics Capacitors	
Part	**Value**
C5	47u
C10	470u

Potentiometers	
Part	**Value**
GAIN	A500K
TONE	A25K
VOLUME	A100K

Trimpots	
Part	**Value**
BIAS1	**50K***
BIAS2	**50K***
BIAS3	**50K***

Transistors	
Part	**Value**
Q1	J201
Q2	J201
Q3	J201

Switches	
Part	**Value**
SW1	SPDT ON-OFF-ON

Diodes	
Part	**Value**
D1	1N5817
D2	3mm LED

Shopping list

Resistors		
Qty	**Value**	**Parts**
1	100K	R6
1	10K	R5
1	10R	R10
2	15K	R8, R9
4	1K	R2, R3, R4, R7
1	1M	R1
1	2K2	R12

Capacitors		
Qty	**Value**	**Parts**
1	10n	C9
1	1u	C7
1	220p	C4
1	22n	C6
3	2n2	C3, C8,
1	470p	C2
1	47p	C1
1	220n	C11

Electrolytics Capacitors		
Qty	**Value**	**Parts**
1	47u	C5
1	470u	C10

Potentiometers		
Qty	**Value**	**Parts**
1	A100K	VOLUME
1	A25K	TONE
1	A500K	GAIN

Trimpots		
Qty	**Value**	**Parts**
3	**50K**	**BIAS1*, BIAS2*, BIAS3***

Transistors		
Qty	**Value**	**Parts**
3	J201	Q1, Q2, Q3

Switches		
Qty	**Value**	**Parts**
1	SPDT ON/OFF/ON	SW1

Diods		
Qty	**Value**	**Parts**
1	1N5817	D1
1	3mm LED	D2

Components Recommendations

As many people like to experiment some pedals with higher voltage, always ensure the max tolerance of your **electrolytic capacitors** is over 25v.

This board has been tested using Film box capacitors for most of the values over 1nf, and ceramics discs for the ones under 1nf. However, high quality components such as Wima's Capacitors and Panasonic's electrolytics can deliver a better performance.

All the resistors used for testing this project are 1/4W Metal Film.

The BOM and Shopping list are exclusively regarding this project. It doesn't include all the hardware like the 3PDT bypass switch, audio/dc jacks, enclosure, etc.

Bias trimpots* This project needs you to adjust the trimpots for the correct functionality of the pedal. We explain that bellow. However if you don't feel like biaising you can replace the trimpots for 15k resistors, and it should work fine. This has not been tested by us but matches what many builders have reported across forums in the web.

The Transistors JFET J201 are the heart of this build. Make sure to get high quality ones from trusted vendors and not cheap Asian counterfeits! we strongly recommend the use of SMD transistors as they are more reliable quality wise.

To bias correctly the transistors you must plug your finished build into the power supply first. With your tester on voltage mode (V20) plug the negative tip into the ground of the project, some alligators could be really helpful. With the positive tip touch the Drain leg of your transistor and it should appear the voltage on your tester screen. If you are using a 9v power supply Tweak the trim pot till you read 4.5v. Do the fine adjustment by ear, in order to bias at your own personal taste.

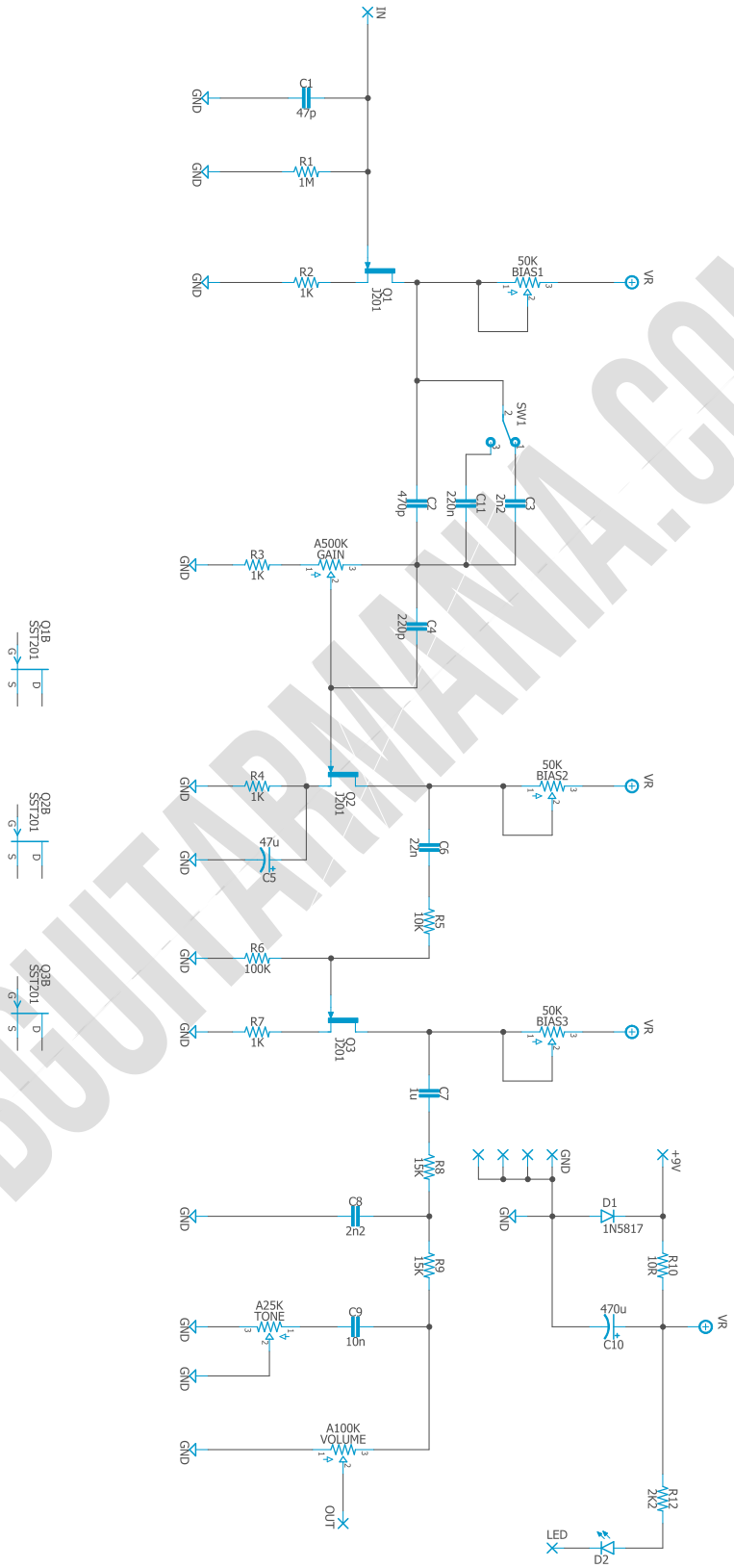
Build Notes

If this is one of your first projects I recommend you to take a look on our Pedal Building Guide

For a successful and tidy build it's recommended the following order:

1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off board wiring

Schematic



Wiring Diagram

All our projects include a free 3PDT Board to make the wiring easier and tidier. Also all of our PCBs feature the status LED on board.

The pad named “Ctrl” or “LED” is the one that controls the status of the led, wire it to the “LED”pad on the 3PDT board, or in control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB check it here to access to our Pedal Wiring Guide

Drill Template

This Project has been planned to fit into a 1590bb enclosure type.

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

Licensing and Usage

We really appreciate your trust and support buying this PCB, as well as your will to dive into the DIY electronics world. That’s why for us is really important that you can make this project work properly and to enjoy not only the building process, but also to experiment and play with it on your rig.

We try to reply to every question we receive on our email or in our social media, but we try to encourage all our customers to join our PCB Guitar Mania – Builders Group on Facebook, in order to post all your doubts, issues, suggestions or request, as well to share your builds and have some feedback from us and other fellow builders!

All of our projects have been tested following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been tested. These are suggestions based on the schematic analysis, and on the experiences and opinions of others. Feel free to share with us your opinions and suggestions regarding the mods your own personal experimentation.

These boards may be used for commercial endeavors in any quantity unless specifically noted. No attribution is necessary, though accreditation or a link back is always greatly appreciated.

If you are a builder planning to make your own run of pedals we also offer the service of custom made boards with your brand and logo, design according your specifications.

The only usage restrictions are that, first, you cannot resell the PCB as part of a kit without prior arrangement with us, and second, you cannot scratch off the silk screen, or other way of trying to hide our logos and the source of the PCBs. Like it’s written above, if you want to have your own designs, with your brand and logo we could certainly reach an agreement.

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