Governator

Based on:
Marshall Guv'nor

Effect type:
Overdrive – Amp in a box

Build difficult:
Intermediate

Number of parts:
Average, total 39 components

Technology:
Dual OpAmp

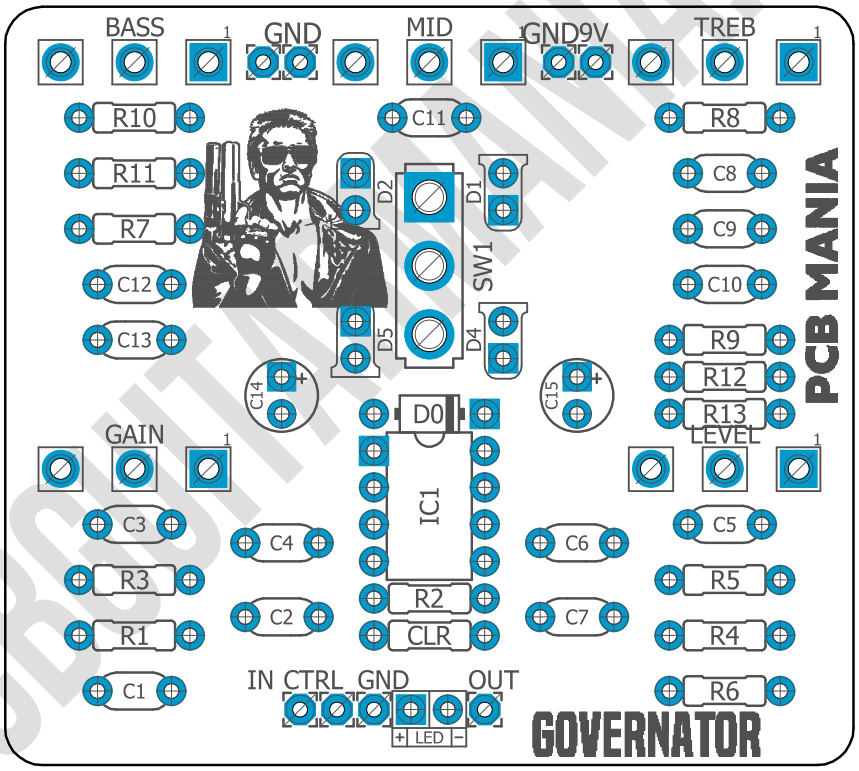
Power consumption:
9V

Enclosure type:
125b

Get your board at:
Governator

Get your kit at:
Das Musikding (Europe)

Project overview:
The Guv'nor was the first pedal ever released by Marshall with the intention of emulating the tone of their amplifiers, beginning the era of the Amp in a box pedals we still seeing today.



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Introduction

The Marshall Gov'nor ™ started the ‚amp in a box era when it was first released in 1988, and there are rumors that the guitar player who tested the prototype said „that pedal is just the guv'nor" so that could explain the name.

1991 Guv'nor was replaced by the Drivemaster that's basically the same pedal. 1998 V2 in the shiny mirror-like enclosure was released and is out till today.

So, what makes this pedal special? It was one of the first pedals to used LEDs in a hard-clipping configuration that leads to less compression and a higher threshold. Plus, it has a 3 Band EQ that helps with its overall more amp-like behavior. We added a clipping option via a toggle switch. For a more open sound with minor tonal changes, I suggest blue LEDs for more drastic results germanium diodes. - but you not up to make this fuzz like, are you? If using any other diodes, just put the anode in the square pad. You could also use an On/Off/On toggle to lift the diodes for more volume and less drive and compression.

Controls

Potentiometer

- Volume
- Gain
- Bass
- Treble
- Mids

Switches

- Diode Switch

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Bill of materials

Resistors	
Part	**Value**
CLR	4k7
R1	2M2
R2	1M
R3	2k2
R4	10k
R5	680k
R6	1k
R7	1k5
R8	100R
R9	22k
R10	680R
R11	680R
R12	47k
R13	47k

Capacitors	
Part	**Value**
C1	10nf
C2	100nf
C3	120pf
C4	220nf
C5	100nf
C6	220pf
C7	220nf
C8	3n9
C9	10nf
C10	470pf
C11	220nf
C12	100nf
C13	68nf

Electrolytic Capacitors	
Part	**Value**
C14	100u
C15	10u

Potentiometers	
Part	**Value**
BASS	A10k
GAIN	B100k
LEVEL	B100k
MID	A10k
TREB	A10k

Trimpots	
Part	**Value**
IC1	JRC4558

Switches	
Part	**Value**
SW1	SPDT ON-OFF-ON
-	3PDT Stomp foot

Diodes	
Part	**Value**
D0	1N4001
D1	3mm RED LED
D2	3mm RED LED
D4	Your choice
D5	Your choice

Jacks	
Part	**Value**
-	DC JACK
-	AUDIO JACK
-	AUDIO JACK

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Shopping list

Resistors		
Qty	**Value**	**Parts**
1	100R	R8
1	10k	R4
1	1M	R2
1	1k	R6
1	1k5	R7
1	22k	R9
1	2M2	R1
1	2k2	R3
2	47k	R12, R13
1	4k7	CLR
2	680R	R10, R11
1	680k	R5

Capacitors		
Qty	**Value**	**Parts**
3	100nf	C2, C5, C12
2	10nf	C1, C9
1	120pf	C3
3	220nf	C4, C7, C11
1	220pf	C6
1	3n9	C8
1	470pf	C10
1	68nf	C13

Electrolytic Capacitors		
Qty	**Value**	**Parts**
1	100u	C14
1	10u	C15

Diodes		
Qty	**Value**	**Parts**
1	1N4001	D0
2	Your choice	D4, D5
2	3mm RED LED	D1, D2

IC		
Qty	**Value**	**Parts**
1	JRC4558	IC1

Potentiometers		
Qty	**Value**	**Parts**
3	A10k	BASS, MID, TREB
2	B100k	GAIN, LEVEL

Switches		
Qty	**Value**	**Parts**
1	SPDT ON-OFF-ON	SW1
1	3PDT Stomp foot	-

Jacks		
Qty	**Value**	**Parts**
1	DC JACK	-
2	AUDIO JACK	-

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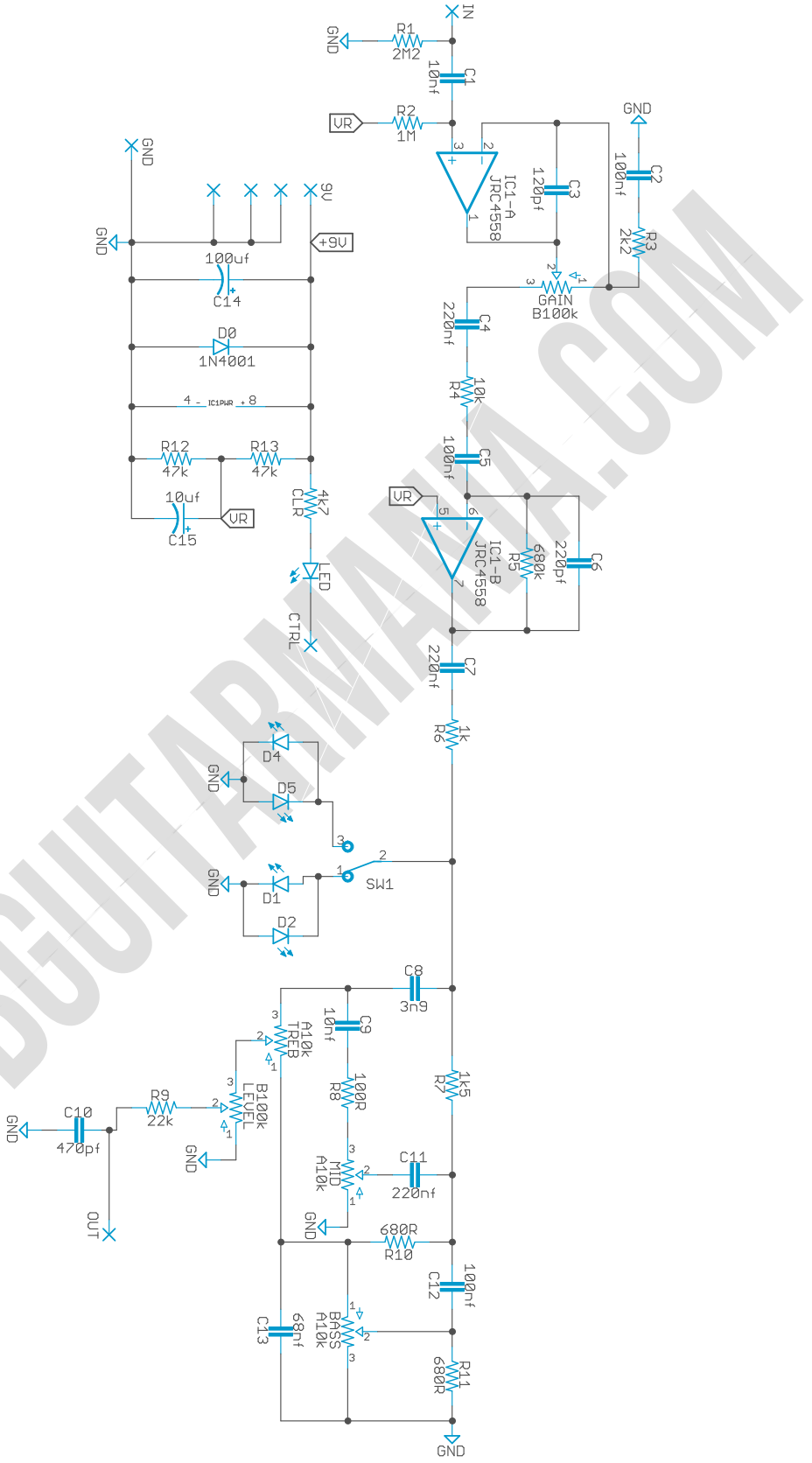
Schematic



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Components Recommendations

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

This board has been tested using Film box capacitors for most of the values over 1nf and ceramics discs for those 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 exclusive regarding this project. It doesn't include all the hardware like the 3PDT bypass switch, audio/dc jacks, enclosure, etc.

Build Notes

If this is one of your first projects, I recommend you to take a look at 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

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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 the control slug of your 3PDT.

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

Drill Template

This Project has been planned to fit into a 125b enclosure type.

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

Licensing and Usage

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

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

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

These boards may be used for commercial endeavors in any quantity unless expressly noted. No attribution is necessary, though accreditation or a link back is always much 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 to 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 silkscreen 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 designs with your brand and logo, we could undoubtedly reach an agreement.

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