

Shotgun SMD

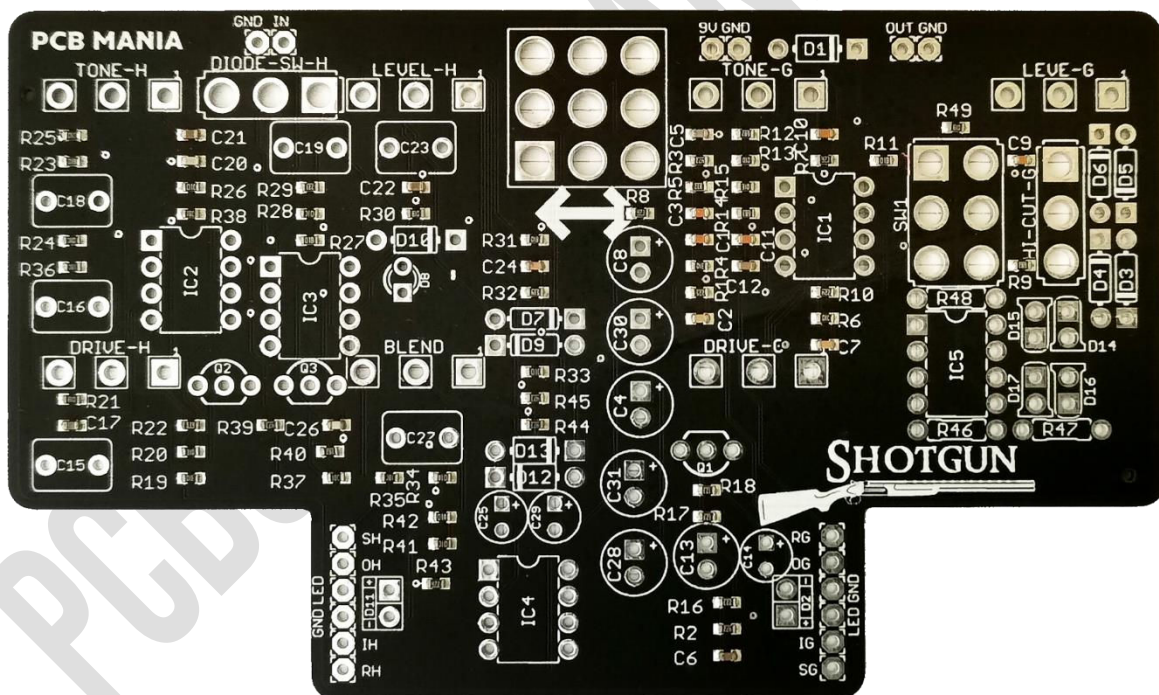
Based on:
JHS Double Barrel
Effect type:
Dual overdrives
Build difficult:
Intermediate

Number of parts:
Average, 53 components
Technology:
Dual Op Amp
Power consumption:
9V

Enclosure type:
1590bb
Get your board at:
[Shotgun SMD](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Inspired by JHS Double Barrel, two overdrive circuits from JHS' range integrated into one board. Is time to double the fun! Tone stacking for low-to-medium gain settings doesn't get any better.



About The Pedal Creators

Everyone can build excellent boutique guitar **pedals**.

Everything **we do** is to make that **experience** more accessible and **user-friendlier**.

The **Pedal Creators** series are the **best and easiest to build PCBs** ever. Including most **resistors** and **capacitors** already **soldered** on board as SMD components, leaving the key values for you to **experiment** and craft **your own tone**.

Now you can **build** a pedal you are **proud** of in **less than an hour** without any previous experience.

What are you waiting for to **become a Pedal Creator**?

The Pedal creators - key features:

- **Easy to build**, no previous experience required. It's like Lego for musicians.
- **Fast assembly** finish a pedal in less than an hour. Play your favorite record and enjoy the ride along.
- **100% mistake-proof**. Even my grandma can build one while she cooks.
- **Build** your own boutique pedal. Experiment with different values and make the **pedal you always dreamed of**.
- Easy to scale. **Turn your passion into a money-making machine**.

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Introduction

Shotgun features the latest versions of two of JHS's most popular drive circuits: the [Morning Glory V4](#) and [Moonshine V2](#).

On one side, the best seller [Morning Glory V4](#), delivering a transparent tone. This segment adds a layer of light crunch that gives more life to chords and sustains to lead lines. On the other side, the updated [Moonshine V2](#) overdrive, ready to offer that classic TS-tone with a lot of grit and saturation. This section has an added knob that lets you blend your unaffected signal with the dirt from the pedal al lets you achieve some fantastic Southern blues tones.

Each part of this board is excellent on its own, but the real magic starts to happen when you combine them. Tones that are unique and new will come with ease: Looking for a more colorful crunch tone? Run the Moonshine into the Morning Glory for added gain. Want a gritty solo boost? Toggle the Morning Glory into the Moonshine, then dial in to taste. Since both pedals are grouped inside the same board, there are no cables to swap and no footwork to master, and you will have extra flexibility thanks to the "order switching" toggle.

Try this versatile but transparent overdrive that works flawlessly at medium and light gain levels. And if you are having problems getting the exact tones you want, with the Shotgun you'll find out how easy it is to hit the target!

Controls

Glory drive section

- Drive
- Level
- Tone
- Mode toggle

Homebrew Section

- Drive
- Level
- Tone
- Blend
- Diode toggle
- Order switch

Bill of materials

Resistors	
Part	Value
R46	1K
R47	1K
R48	1K

Capacitors	
Part	Value
C15	1u
C16	1u
C18	1u
C19	330n
C23	1u
C27	1u

Electrolytic Capacitors	
Part	Value
C4	100u
C8	100u
C13	2u2
C14	10u
C25	10u
C28	100u
C29	10u
C30	100u
C31	100u

Potentiometers	
Part	Value
BLEND	B10K
DRIVE-G	B100K
DRIVE-H	A500K
LEVE-G	A100K
LEVEL-H	B100K
TONE-G	B25K
TONE-H	W20K

ICs	
Part	Value
IC1	LM833N
IC2	NE5532
IC3	LM833
IC4	TC1044SCPA
IC5	LM833N

Transistors	
Part	Value
Q1	2N5457
Q2	2N3904
Q3	2N3904

Switches	
Part	Value
SW3 - ORDER SWITCH	3PDT On/On
DIODE-SW-H	SPDT On/Off/On
HI-CUT-G	SPDT On-On

Diodes	
Part	Value
D1	1N5817
D2	3mm LED
D3	1N914
D4	1N914
D5	1N914
D6	1N914
D7	BA482
D8	3mm LED
D9	BA482
D10	1N4002
D11	3mm LED
D12	1N5817
D13	1N5817
D14	3mm LED
D15	3mm LED
D16	3mm LED
D17	3mm LED

Shopping list

Resistors

Qty	Value	Parts
3	1K	R46, R47, R48

Capacitors

Qty	Value	Parts
5	1u	C15, C16, C18, C23, C27
1	330n	C19

Electrolytic Capacitors

Qty	Value	Parts
5	100u	C4, C8, C28, C30, C31
3	10u	C14, C25, C29
1	2u2	C13

Potentiometers

Qty	Value	Parts
1	A100K	LEVE-G
1	A500K	DRIVE-H
2	B100K	DRIVE-G, LEVEL-H
1	B10K	BLEND
1	B25K	TONE-G
1	W20K	TONE-H

ICs

Qty	Value	Parts
1	LM833	IC3
1	LM833N	IC1
1	NE5532*	IC2
1	TC1044SCPA	IC4

Transistors

Qty	Value	Parts
2	2N3904	Q2, Q3
1	2N5457	Q1

Switches

Qty	Value	Parts
1	3PDT On/On	SW3 - ORDER SWITCH
1	SPDT On/Off/On	DIODE-SW-H
1	SPDT On-On	HI-CUT-G
1	3PDT Stomp foot	-

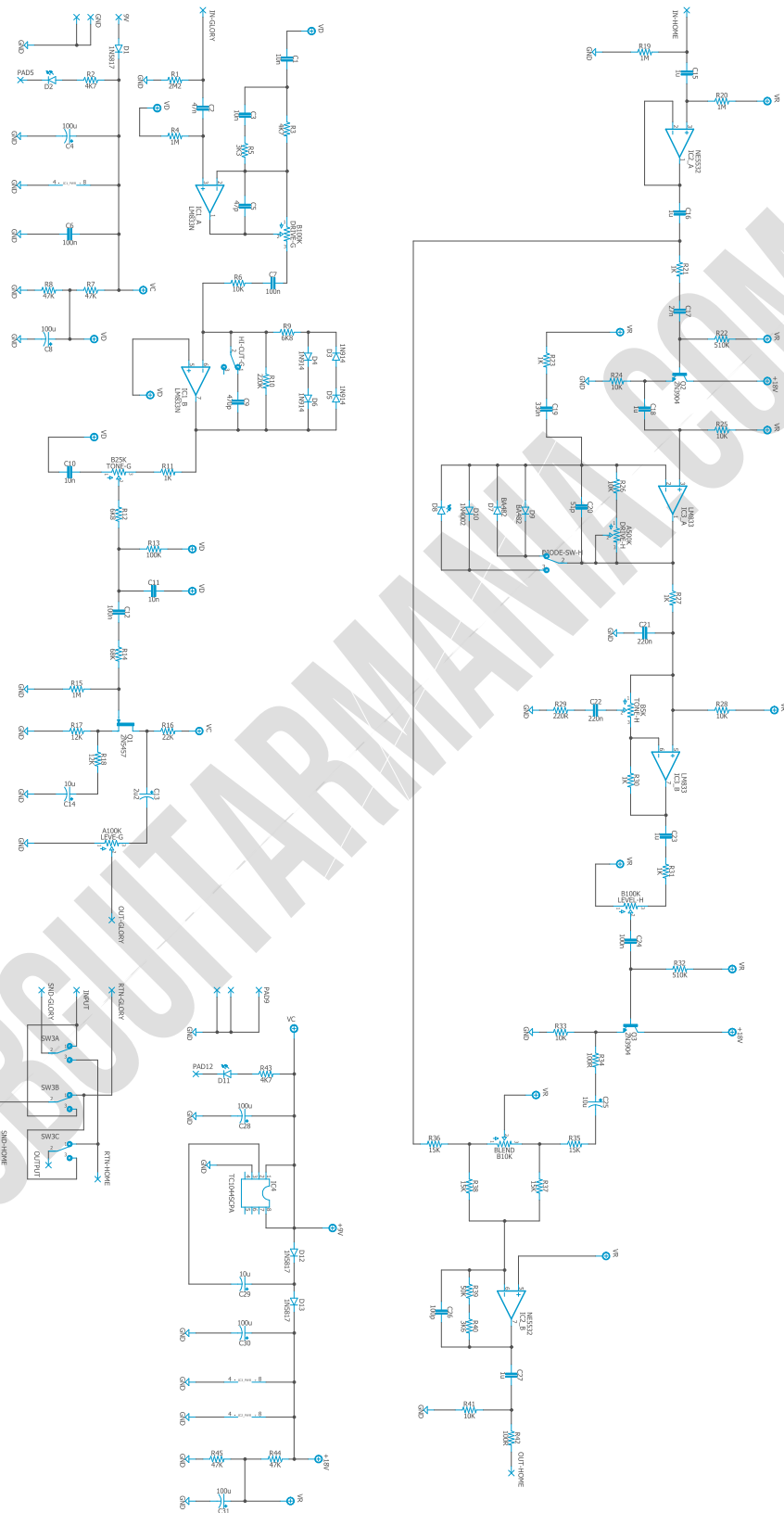
Diodes

Qty	Value	Parts
1	1N4002	D10
3	1N5817	D1, D12, D13
4	1N914	D3, D4, D5, D6
2	BA482	D7, D9
3	3mm red LED	D2, D8, D11

Jacks

Qty	Value	Parts
1	DC JACK	-
2	AUDIO JACK	-

Schematic



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

NE5532*

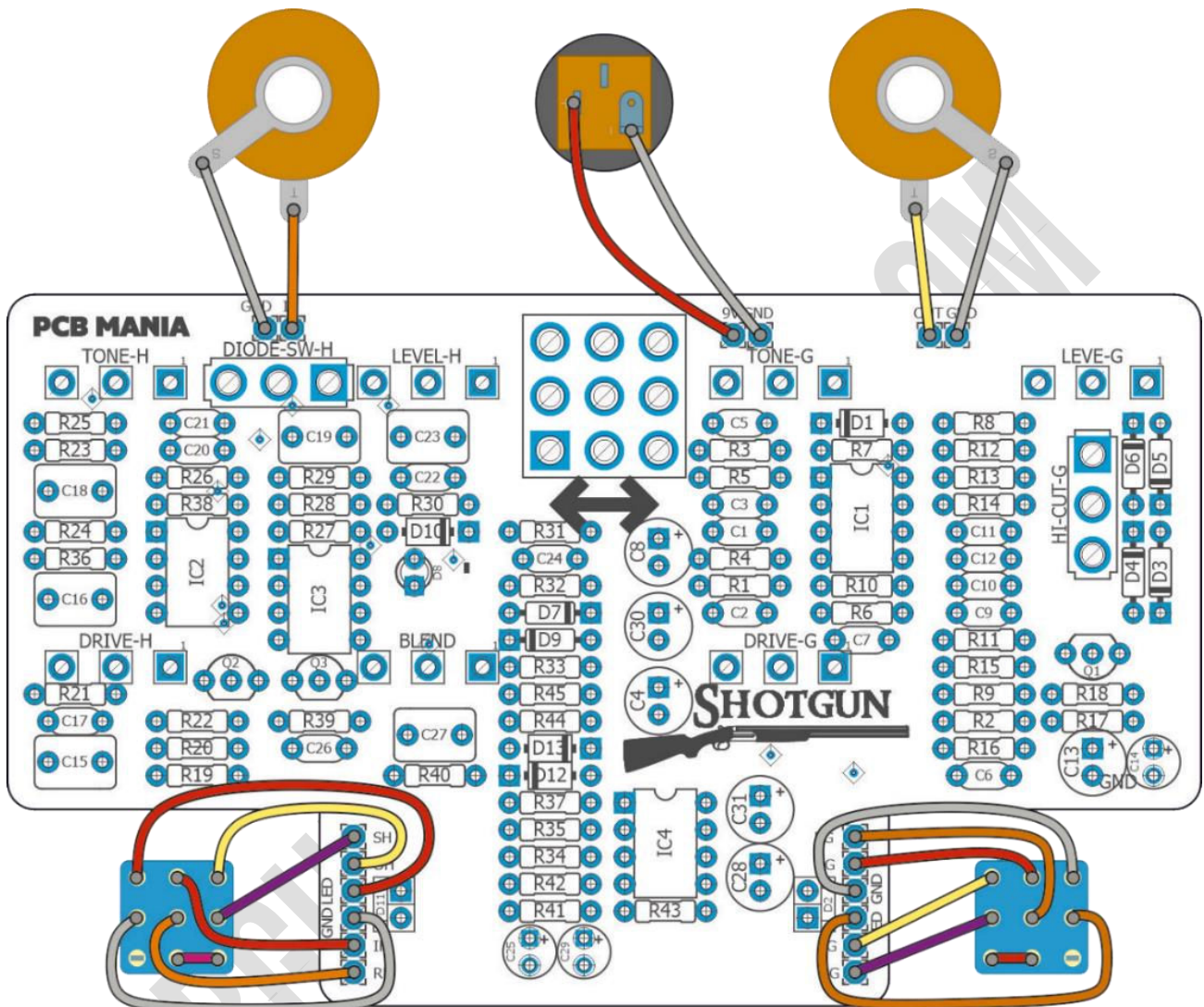
Any Dual Op Amp will do the job.

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 on an A4 page.

Wiring Diagram



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.

Follow us on [Instagram](#) and [Facebook](#) to stay in tune with the latest projects!