

Exotic Soul

Based on:

Xotic Soul Driven

Effect type:

Soul giving overdrive

Build difficult:

Intermediate

Amount of parts:

Average, total 50 components

Technology:

Op Amp

Power consumption:

9V

Enclosure type:

125b

Get your board at:

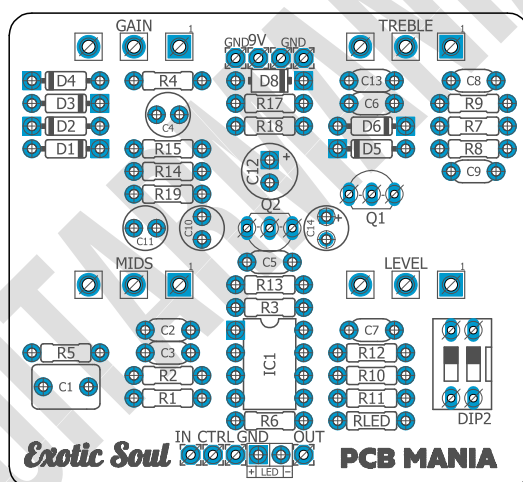
[Exotic Soul](#)

Get your kit at:

[Das Musikding \(Europe\)](#)

Project overview:

Inspired by one of the best Xotic Effects design, the Soul Driven delivers creamy boost and overdriven tones that enhance harmonics while maintaining your guitar tone's transparency,



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Introduction

This pedal brings excellent value by replicating a perfectly tuned amp's tone and response, offering robust control over your mid frequencies, fattening up your tone while simultaneously punching through the mix. The tone control adds clarity without ever becoming harsh at higher settings (nothing says "good circuit design" like that kind of feature).

If you're the type of guitarist that spends a reasonable amount of time searching for that tonal sweet spot, that precise mix of boost, compression, and overdrive, this is the right build for you.

But what's the secret that allows this pedal to achieve that sweet equilibrium point? Well, the Exotic Soul has enough push (not the traditional amount that a booster usually has) to send a tube amp into overdrive. Gain control might don't go as far as to give you heavy distortion or a crazy amount of fuzz. Still, it has more than enough to delight with a wide variety of rich, saturated overdrive tones perfect for modern rock, classic rock, blues, and more. And finally, the compression has the ideal amount to deliver rich sustain and smooth harmonics without ever sounding flat or lifeless.

It's not easy to reach that level of perfect balance, and the result is that Exotic sound that brings Soul to your playing.

Controls

- Gain
- Level
- Mids
- Treble

Bill of materials

| Resistors | |
|-----------|-------|
| Part | Value |
| R1 | 1M |
| R2 | 10K |
| R3 | 1M |
| R4 | 18K |
| R5 | 1K8 |
| R6 | 470K |
| R7 | 10K |
| R8 | 470K |
| R9 | 1K2 |
| R10 | 18K |
| R11 | 15K |
| R12 | 15K |
| R13 | 100K |
| R14 | 10K |
| R15 | 100K |
| R17 | 22K |
| R18 | 22K |
| R19 | 470R |
| RLED | 4K7 |

| Capacitors | |
|------------|-------|
| Part | Value |
| C1 | 470n |
| C2 | 150p |
| C3 | 100n |
| C5 | 1n5 |
| C6 | 100n |
| C7 | 2n2 |
| C8 | 56n |
| C9 | 56n |
| C13 | 100n |

| Electrolytics Capacitors | |
|-----------------------------|-------------------|
| Part | Value |
| C4 | 4u7 non polarized |
| C10 | 10u non polarized |

| | |
|-----|-------------------|
| C11 | 10u non polarized |
| C12 | 10u |
| C14 | 10u |

| Potentiometers | |
|----------------|--------|
| Part | Value |
| GAIN | 1M B |
| LEVEL | 100K B |
| MIDS | 10K C |
| TREBLE | 250K B |

| Trimpots | |
|----------|-------|
| Part | Value |
| IC1 | LM833 |

| Transistors | |
|-------------|--------|
| Part | Value |
| Q1 | BC549C |
| Q2 | BC549C |

| Switch | |
|--------|----------------------|
| Part | Value |
| DIP2 | Dip Switch two poles |

| Diodes | |
|--------|-------------|
| Part | Value |
| D1 | 1n914 |
| D2 | BAT46 |
| D3 | BAT46 |
| D4 | 1n914 |
| D5 | 1n914 |
| D6 | 1n914 |
| D8 | 1N5817 |
| LED | 3mm red LED |

Shopping list

| Resistors | | |
|-----------|-------|-------------|
| Qty | Value | Parts |
| 2 | 100K | R13, R15 |
| 3 | 10K | R2, R7, R14 |
| 2 | 15K | R11, R12 |
| 2 | 18K | R4, R10 |
| 1 | 1K2 | R9 |
| 1 | 1K8 | R5 |
| 2 | 1M | R1, R3 |
| 2 | 22K | R17, R18 |
| 2 | 470K | R6, R8 |
| 1 | 470R | R19 |
| 1 | 4K7 | RLED |

| Capacitors | | |
|------------|-------|-------------|
| Qty | Value | Parts |
| 3 | 100n | C3, C6, C13 |
| 1 | 150p | C2 |
| 1 | 1n5 | C5 |
| 1 | 2n2 | C7 |
| 1 | 470n | C1 |
| 2 | 56n | C8, C9 |

| Electrolytics Capacitors | | |
|--------------------------|-------------------|----------|
| Qty | Value | Parts |
| 2 | 10u | C14, C12 |
| 2 | 10u non polarized | C10, C11 |
| 1 | 4u7 non polarized | C4 |

| Potentiometers | | |
|----------------|--------|--------|
| Qty | Value | Parts |
| 1 | 100K B | LEVEL |
| 1 | 1M B | GAIN |
| 1 | 250K B | TREBLE |
| 1 | 10K C | MIDS |

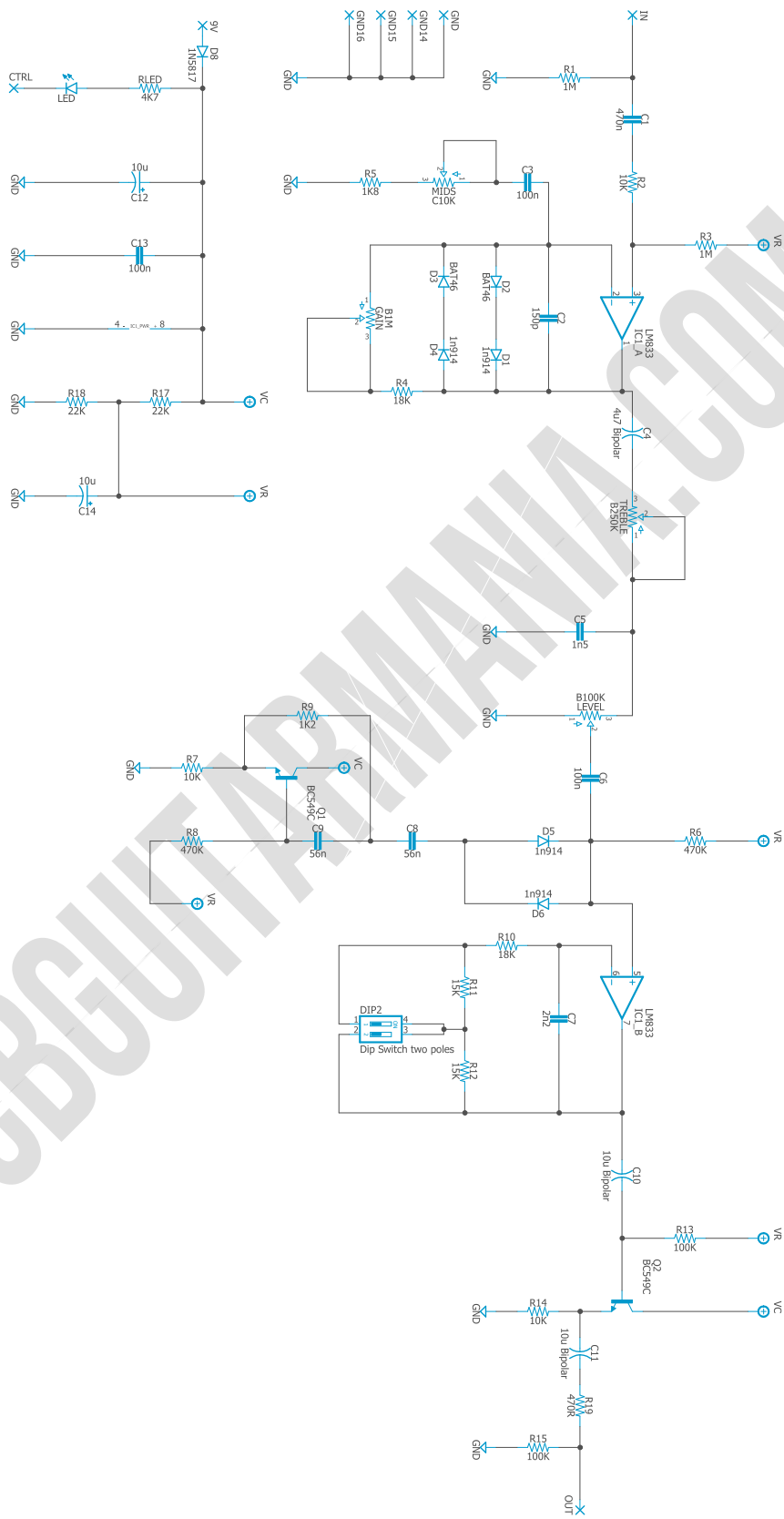
| IC | | |
|-----|-------|-------|
| Qty | Value | Parts |
| 1 | LM833 | IC1 |

| Transistors | | |
|-------------|--------|--------|
| Qty | Value | Parts |
| 2 | BC549C | Q1, Q2 |

| Switch | | |
|--------|----------------------|-------|
| Qty | Value | Parts |
| 1 | Dip Switch two poles | DIP2 |

| Diodes | | |
|--------|-------------|----------------|
| Qty | Value | Parts |
| 1 | 1N5817 | D8 |
| 4 | 1n914 | D1, D4, D5, D6 |
| 2 | BAT46 | D2, D3 |
| 1 | 3mm red LED | LED |

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

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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