

Sinner Bass Drive

Based on:
Sansamp Bass Driver

Effect type:
Versatile Overdrive

Build difficult:
Advanced

Amount of parts:
High, total 95 components

Technology:
Op Amp

Power consumption:
9V

Enclosure type:
1790NS

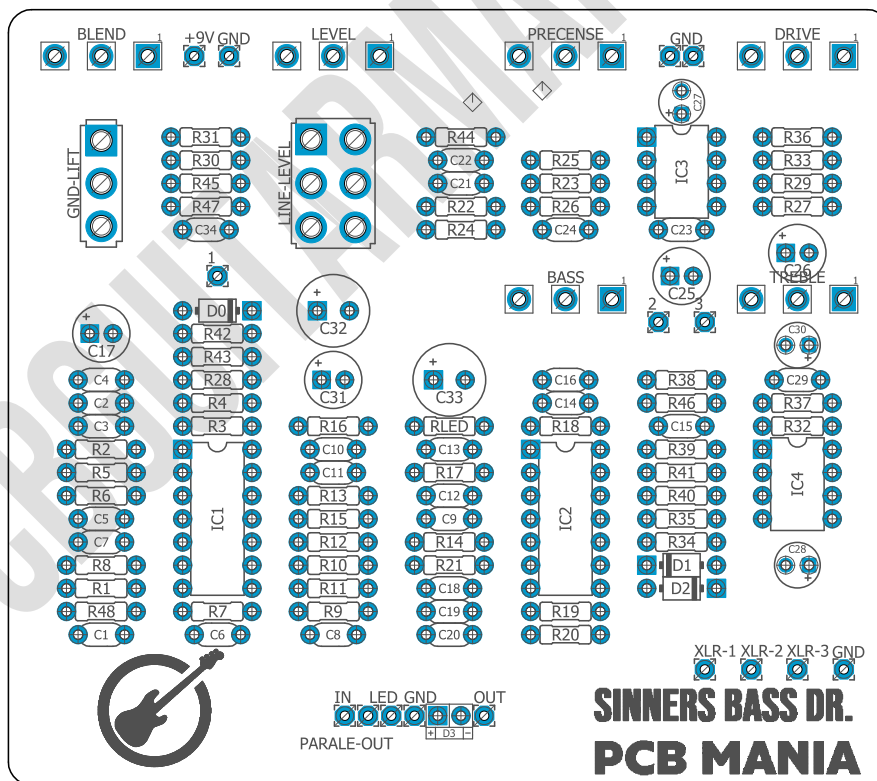
Get your board at:
[Sinner Bass Drive](#)

Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Come with us and sin... with bass!

The Sinne Bass Drive is a true swiss army knife of bass pedals. At first sight this pedal is just another overdrive effect, but you couldn't be more wrong. Designed specifically for the bass guitarist's needs, this little devil will come in handy in the studio as well as on the stage and anywhere in between. Let's have a gander at what's on offer here.



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Introduction

How many times have you connected your bass into a PA or an audio interface to record just to experience some sort of weird noise that you couldn't get rid of? Well, the nightmare is over with the Sinner Bass Drive as it offers a nifty little switch that lifts the ground from the signal chain and removes the interference that is caused by a ground loop. With the ground loop out of the way, we are able now to connect your bass to a PA or an audio interface, but what's the problem now? The device has only a line level input? Not a problem! The Sinner Bass Drive comes with a switch that changes your output signal to line level and mixing that with the available balanced XLR output, there is nothing that will stand in your way to shake the place with your low-end rig.

As the switches have been taken care of, let's have a look at the 6 available potentiometers - DRIVE, LEVEL, BLEND, TREBLE, BASS and PRESENCE. With DRIVE you can decide how much distortion is added when the pedal is engaged - from barely noticeable to an orchestra of harmonics - your call. LEVEL is the control over the volume of the pedal. The BLEND knob gives you the possibility of adding some of your clean signal to the distorted one in order to maintain clarity of your notes. TREBLE, PRESENCE and BASS is the EQ section that allows for control over the highs, mids and low end respectively.

Ever since rock and roll has been labeled as the music of the devil, people tried to satisfy him with sacrifices made of distortion. This hell of a unit will put a smile on the fussiest devil out there. Sin on!

Controls

- BASS
- BLEND
- DRIVE
- LEVEL
- PRECENSE
- TREBLE

Bill of materials

| Resistors | |
|-----------|-------|
| Part | Value |
| R1 | 10K |
| R2 | 100K |
| R3 | 2K2 |
| R4 | 22K |
| R5 | 1M |
| R6 | 100K |
| R7 | 330K |
| R8 | 3K3 |
| R9 | 330K |
| R10 | 3K3 |
| R11 | 10K |
| R12 | 22K |
| R13 | 22K |
| R14 | 10K |
| R15 | 22K |
| R16 | 33K |
| R17 | 33K |
| R18 | 22K |
| R19 | 10K |
| R20 | 22K |
| R21 | 10K |
| R22 | 10K |
| R23 | 3K3 |
| R24 | 10K |
| R25 | 1M |
| R26 | 1K |
| R27 | 100K |
| R28 | 100K |
| R29 | 10K |
| R30 | 22K |
| R31 | 3K2 |
| R32 | 10K |
| R33 | 10K |
| R34 | 10K |
| R35 | 100R |
| R36 | 1K |
| R37 | 10K |
| R38 | 10K |

| | |
|------|------|
| R39 | 100R |
| R40 | 1K |
| R41 | 1K |
| R42 | 100k |
| R43 | 100k |
| R44 | 22K |
| R45 | 3K2 |
| R46 | 6k2 |
| R47 | 10K |
| R48 | 1m |
| RLED | 4K7 |

| Capacitors | |
|------------|-------|
| Part | Value |
| C1 | 22u |
| C2 | 22n |
| C3 | 22n |
| C4 | 22n |
| C5 | 22n |
| C6 | 220p |
| C7 | 10n |
| C8 | 220p |
| C9 | 47n |
| C10 | 470p |
| C11 | 10n |
| C12 | 1.2n |
| C13 | 2.2n |
| C14 | 22n |
| C15 | 47n |
| C16 | 47n |
| C18 | 33p |
| C19 | 100n |
| C20 | 10n |
| C21 | 22n |
| C22 | 22n |
| C23 | 10n |
| C24 | 33p |
| C29 | 33p |
| C34 | 33p |

| Electrolytics Capacitors | |
|--------------------------|-------|
| Part | Value |
| C17 | 2.2u |
| C25 | 2.2u |
| C26 | 2.2u |
| C27 | 10u |
| C28 | 10u |
| C30 | 10u |
| C31 | 47u |

| Potentiometers | |
|----------------|--------|
| Part | Value |
| BASS | 100K B |
| BLEND | 100K B |
| DRIVE | 100K B |
| LEVEL | 100K B |
| PRECENSE | 100K B |
| TREBLE | 100K B |

| Trimpots | |
|----------|--------|
| Part | Value |
| IC1 | TL074P |
| IC2 | TL074P |
| IC3 | TL072 |
| IC4 | TL072 |

| Diodes | |
|--------|-------------|
| Part | Value |
| D0 | 1N5817 |
| D1 | 1N4001 |
| D2 | 1N4742A |
| D3 | 3mm red LED |

Shopping list

| Resistors | | |
|-----------|-------|---|
| Qty | Value | Parts |
| 6 | 100K | R2, R6, R27, R28, R42, R43 |
| 2 | 100R | R35, R39 |
| 14 | 10K | R1, R11, R14, R19, R21, R22, R24, R29, R32, R33, R34, R37, R38, R47 |
| 4 | 1K | R26, R36, R40, R41 |
| 3 | 1M | R5, R25, R48 |
| 8 | 22K | R4, R12, R13, R15, R18, R20, R30, R44 |
| 1 | 2K2 | R3 |
| 2 | 330K | R7, R9 |
| 2 | 33K | R16, R17 |
| 2 | 3K2 | R31, R45 |
| 3 | 3K3 | R8, R10, R23 |
| 1 | 4K7 | RLED |
| 1 | 6k2 | R46 |

| Capacitors | | |
|------------|-------|-------------------------------|
| Qty | Value | Parts |
| 1 | 1.2n | C12 |
| 1 | 100n | C19 |
| 4 | 10n | C7, C11, C20, C23 |
| 1 | 2.2n | C13 |
| 2 | 220p | C6, C8 |
| 7 | 22n | C2, C3, C4, C5, C14, C21, C22 |
| 1 | 22u | C1 |
| 4 | 33p | C18, C24, C29, C34 |
| 1 | 470p | C10 |
| 3 | 47n | C9, C15, C16 |

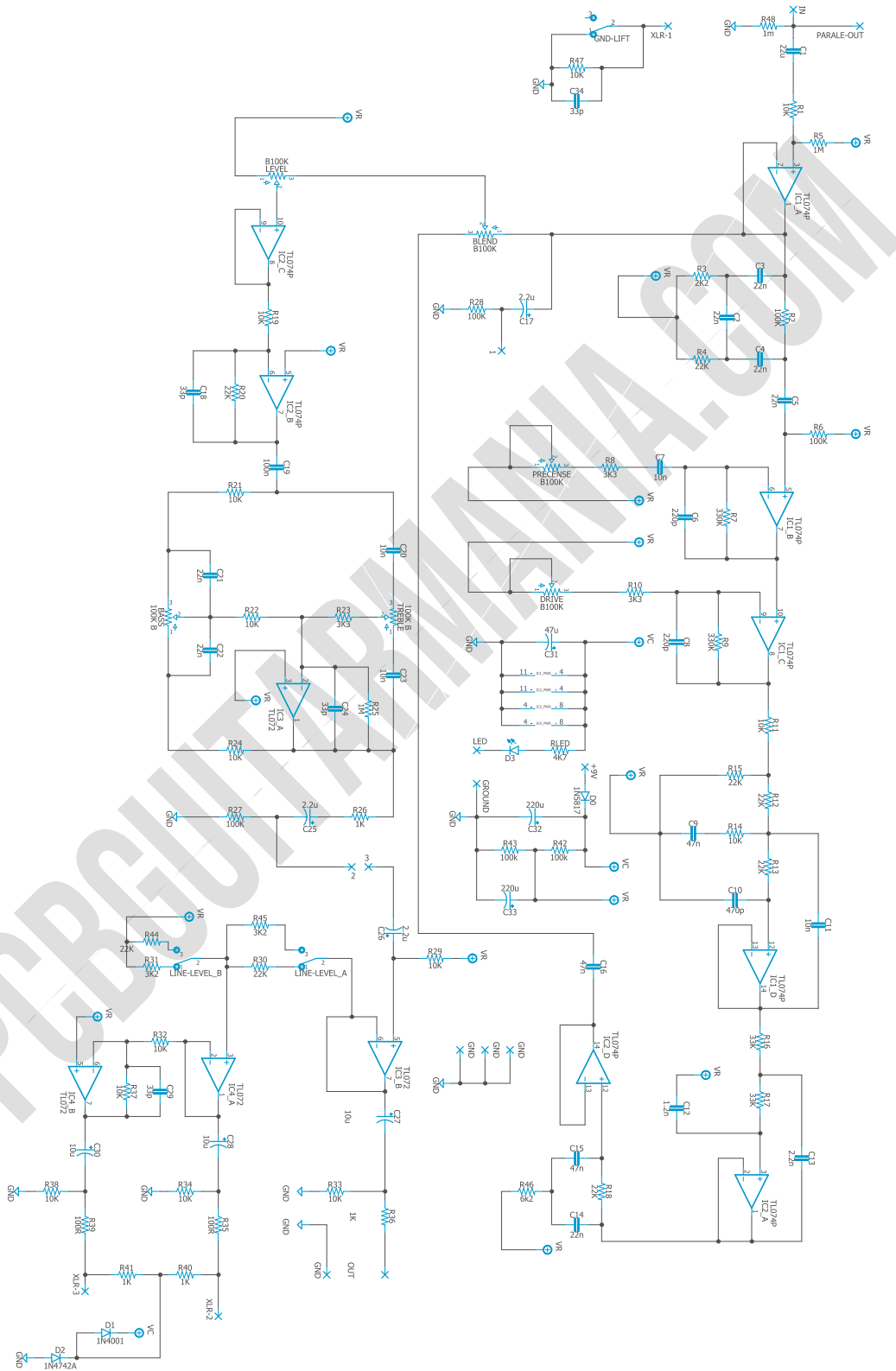
| Electrolytics Capacitors | | |
|--------------------------|-------|---------------|
| Qty | Value | Parts |
| 3 | 10u | C27, C28, C30 |
| 3 | 2.2u | C17, C25, C26 |
| 1 | 47u | C31 |

| Potentiometers | | |
|----------------|--------|---|
| Qty | Value | Parts |
| 6 | 100K B | BASS, TREBLE, BLEND, DRIVE, LEVEL, PRECENSE |

| IC | | |
|-----|--------|----------|
| Qty | Value | Parts |
| 2 | TL072 | IC3, IC4 |
| 2 | TL074P | IC1, IC2 |

| Diodes | | |
|--------|-------------|-------|
| Qty | Value | Parts |
| 1 | 1N4001 | D1 |
| 1 | 1N4742A | D2 |
| 1 | 1N5817 | D0 |
| 1 | 3mm red LED | D3 |

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 1790NS 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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