

Active EQ SMD

Based on:

Freeman BE-OD and the Dirty Shirley EQ section

Effect type:

3 Band Active EQ

Build difficult:

Easy

Amount of parts:

Easy, total 11 components

Technology:

Op Amp

Power consumption:

9V

Enclosure type:

1790NS

Get your board at:

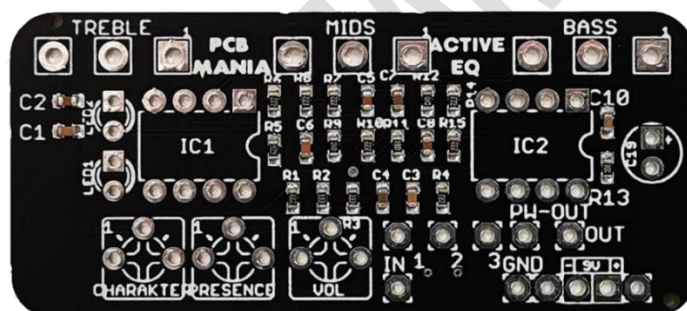
[Active EQ SMD](#)

Get your kit at:

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

Project overview:

Based on the Friedman BE-OD and the Dirty Shirley EQ section. We consider this EQ the best fit for Preamp emulator projects and high gain pedals.



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

Includes an internal Presence control, followed by a Character trimpot that regulates how a set of LEDs compress the signal. Then we jump into a passive treble control, followed by an Active Bass section. Now's when you have to choose if you want to have a volume control of the overall circuit inserted here from your main PCB board (Tube screamer, Plexi, etc) or to place just an internal trimmer as an additional control. After this volume section, it comes the active mids control.

One of the characteristic that makes this board the best solution for preamps and high output circuits it's the Power output option, this works the best for those high output preamps to go and feed directly into a power amp, and the regular output will be tamed into a more pedal-friendly volume. If you are using this board with a pedal that's not famous for its big output (Klon centaur for example) you should use the power output.

Controls

- Bass
- Mids
- Treble

Bill of materials

Electrolytics Capacitors

| Part | Value |
|------|-------|
| C19 | 22uf |

Potentiometers

| Part | Value |
|--------|--------|
| BASS | 100K C |
| MIDS | 100K C |
| TREBLE | 100K B |

Trimpots

| Part | Value |
|-----------|-------|
| CHARAKTER | 100k |
| PRESENCE | 10k |
| VOL | 50k |

IC

| Part | Value |
|------|-------|
| IC1 | TL072 |
| IC2 | TL072 |

Diodes

| Part | Value |
|------|---------|
| LED1 | 3mm LED |
| LED2 | 3mm LED |

Shopping list

Electrolytics Capacitors

| Qty | Value | Parts |
|-----|-------|-------|
| 1 | 22uf | C19 |

Potentiometers

| Qty | Value | Parts |
|-----|-------|------------|
| 1 | b100K | TREBLE |
| 2 | c100K | BASS, MIDS |

Trimpots

| Qty | Value | Parts |
|-----|-------|-----------|
| 1 | 100k | CHARAKTER |
| 1 | 50k | VOL |
| 1 | 10k | PRESENCE |

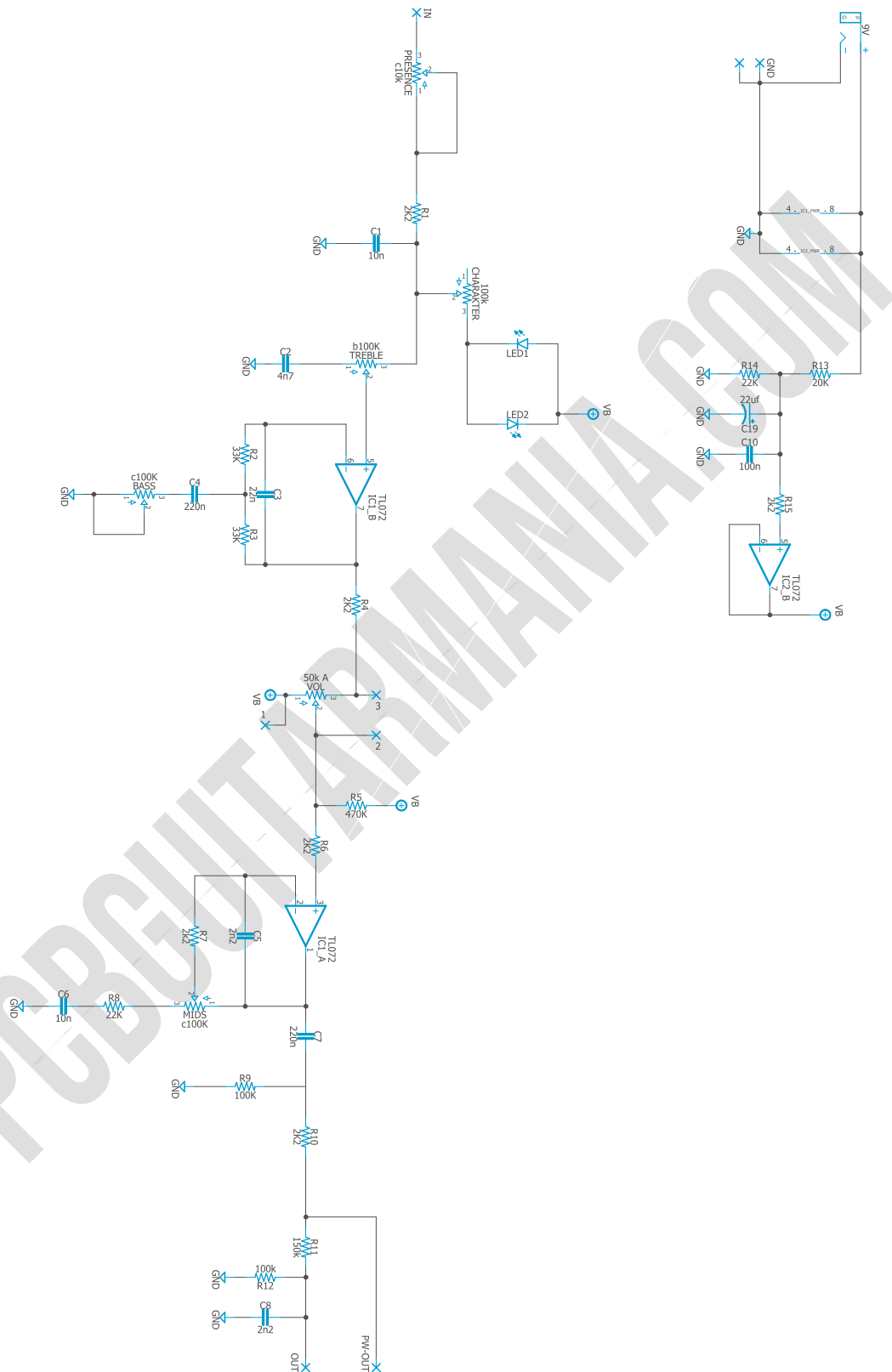
IC

| Qty | Value | Parts |
|-----|-------|----------|
| 2 | TL072 | IC1, IC2 |

Diodes

| Qty | Value | Parts |
|-----|---------|------------|
| 2 | 3mm LED | LED1, LED2 |

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. Electrolytic capacitors (always check the polarity)
2. Transistors
3. Wires
4. Potentiometers and switches
5. 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](#).

Drilling 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.

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