

Crisis Equinox

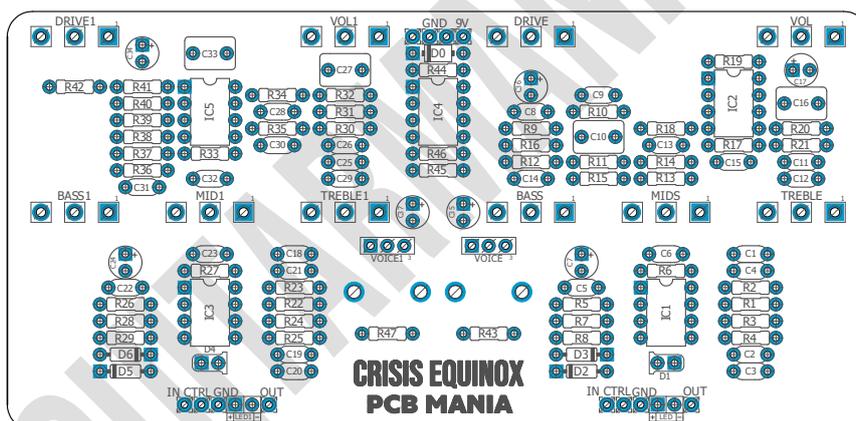
Based on:
SUHR ECLIPSE
Effect type:
Dual High gain Distortion
Build difficult:
Advanced

Amount of parts:
High, total 108 components
Technology:
Dual OpAmp
Power consumption:
9V

Enclosure type:
1790NS
Get your board at:
[Crisis Equinox](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Inspired by Suhr Eclipse. Dual channel overdrive/distortion with 3-Band passive EQ, similar to a channel switching amplifier with individual voice settings. If you liked the Crisis, you'll definitely love his big brother.



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Introduction

Is a fact: Every guitar player gets crazy for any pedal with two or more footswitches. We all love the extra possibilities of an additional channel or an independent booster to bring to our tone. Especially if we are talking about two drives, we can stack into each other in a single box, like's the case of the KOT or the present Crisis Equinox.

The Crisis Equinox is a powerful yet intuitive dual overdrive. Each channel is exactly identical and completely independent from each other, featuring Gain, volume, and three bands passive eq section. It features a master knob to dial the whole pedal's voice on the original unit, but we decided to make it independent for each channel, adding more versatility to this amp like a beast.

The possibilities with the Crisis Equinox are endless. You can set one channel for a tight, scooped rhythm sound and the other to a more saturated, midrange-focused tone for solos. You can boost and stack both drives. You can plug it in front of a hot tube amp to spice up and tight your tone or in front of a clean channel to make yourself a three-channel rig. The possibilities are endless.

Controls

- BASS
- BASS1
- DRIVE
- DRIVE1
- MID
- MID1
- TREMBLE
- TREMBLE1
- VOICE
- VOICE1
- VOL
- VOL1

Bill of material

Resistors	
Part	Value
R1	2m2
R2	470k
R3	470r
R4	1k
R5	10k
R6	1m
R7	470r
R8	220r
R9	11k3
R10	8k2
R11	100k
R12	10k
R13	4k7
R14	4k7
R15	10k
R16	10k
R17	1m
R18	20k
R19	20k
R20	100r
R21	10k
R22	2m2
R23	470k
R24	470r
R25	1k
R26	10k
R27	1m
R28	470r
R29	220r
R30	11k3

R31	8k2
R32	100k
R33	10k
R34	4k7
R35	4k7
R36	10k
R37	10k
R38	1m
R39	20k
R40	20k
R41	100r
R42	10k
R43	4k7
R44	100r
R45	20k
R46	20k
R47	4k7

Capacitors	
Part	Value
C1	22n
C2	150n
C3	250p
C4	250p
C5	820p
C6	68p
C8	22n
C9	22n
C10	1uf
C11	680p
C12	680p
C13	10n

C14	33n
C15	3n3
C16	1uf
C18	22n
C19	150n
C20	250p
C21	250p
C22	820p
C23	68p
C25	22n
C26	22n
C27	1uf
C28	680p
C29	680p
C30	10n
C31	33n
C32	3n3
C33	1uf

DRIVE1	100K B
MID1	500K B
MIDS	500K B
TREBLE	500K B
TREBLE1	500K B
VOICE	100K C (9mm)
VOICE1	100K C (9mm)
VOL	20k B
VOL1	20k B

IC	
Part	Value
IC1	JRC4580
IC2	JRC4580
IC3	JRC4580
IC4	JRC4580
IC5	JRC4580

Electrolytic Capacitors	
Part	Value
C7	2u2
C17	10u
C24	2u2
C34	10u
C35	470u
C36	10u
C37	10u

Diodes	
Part	Value
D0	1n5817
D1	3mm red led
D2	1n4001
D3	1n4001
D4	3mm red led
D5	1n4001
D6	1n4001

Potentiometers	
Part	Value
BASS	500K B
BASS1	500K B
DRIVE	100K B

Shopping list

Resistors		
Qty	Value	Parts
2	100k	R11, R32
3	100r	R20, R41, R44
10	10k	R5, R12, R15, R16, R21, R26, R33, R36, R37, R42
2	11k3	R9, R30
2	1k	R4, R25
4	1m	R6, R17, R27, R38
6	20k	R18, R19, R39, R40, R45, R46
2	220r	R8, R29
2	2m2	R1, R22
2	470k	R2, R23
4	470r	R3, R7, R24, R28
6	4k7	R13, R14, R34, R35, R43, R47
2	8k2	R10, R31

Capacitors		
Qty	Value	Parts
2	10n	C13, C30
2	150n	C2, C19
4	1uf	C10, C16, C27, C33
6	22n	C1, C8, C9, C18, C25, C26
4	250p	C3, C4, C20, C21
2	33n	C14, C31
2	3n3	C15, C32
4	680p	C11, C12, C28, C29
2	68p	C6, C23
2	820p	C5, C22

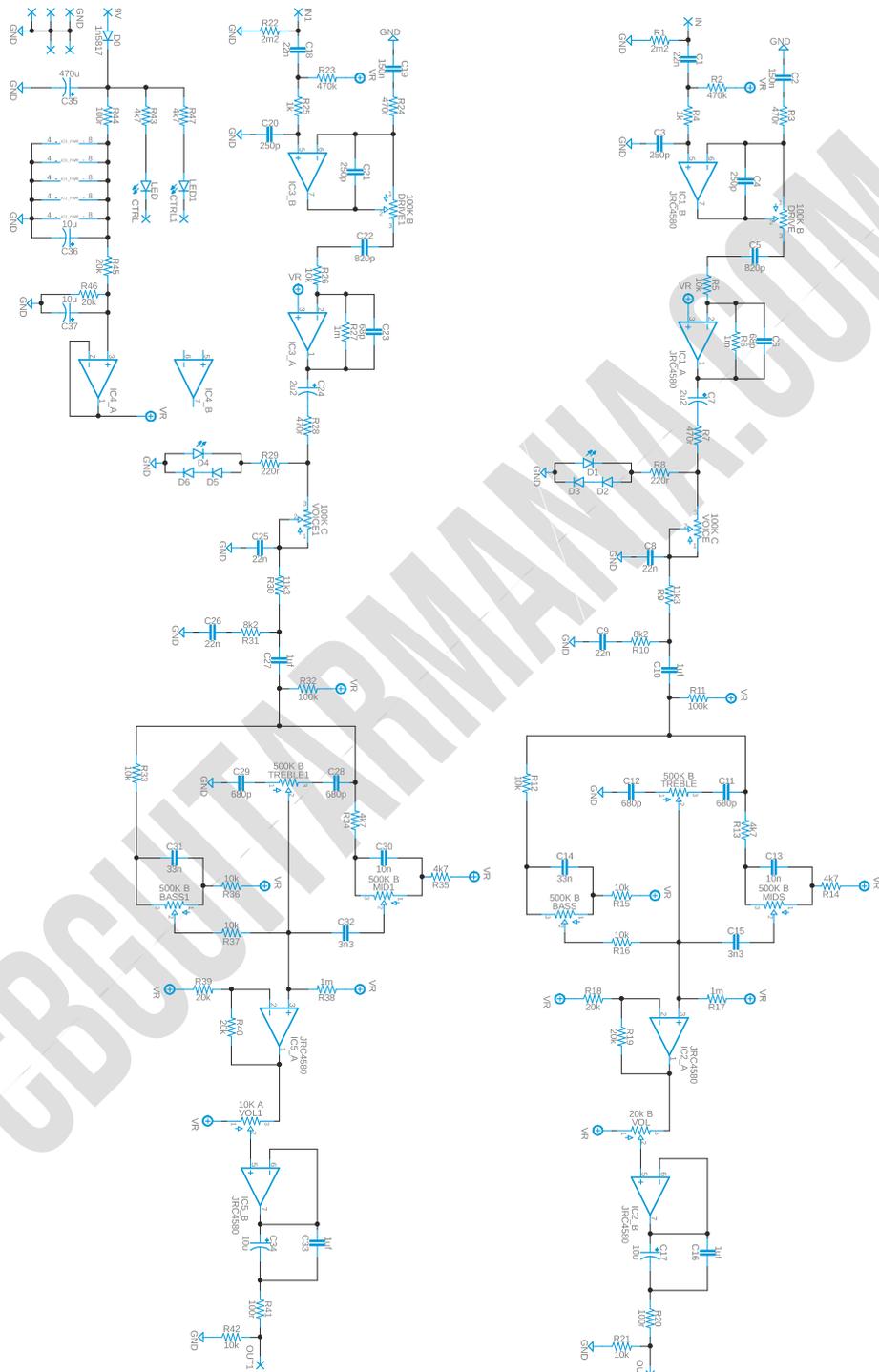
Electrolytic Capacitors		
Qty	Value	Parts
4	10u	C17, C34, C36, C37
2	2u2	C7, C24
1	470u	C35

Potentiometers		
Qty	Value	Parts
2	100K B	DRIVE, DRIVE1
2	100K C (9 mm)	VOICE, VOICE1
2	20k B	VOL, VOL1
6	500K B	BASS, BASS1, MID1, MIDS, TREBLE, TREBLE1

IC		
Qty	Value	Parts
5	JRC4580	IC1, IC2, IC3, IC4, IC5

Diodes		
Qty	Value	Parts
4	1n4001	D2, D3, D5, D6
1	1n5817	D0
2	3mm LED	LED, LED1
2	3mm red led	D1, D4

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:

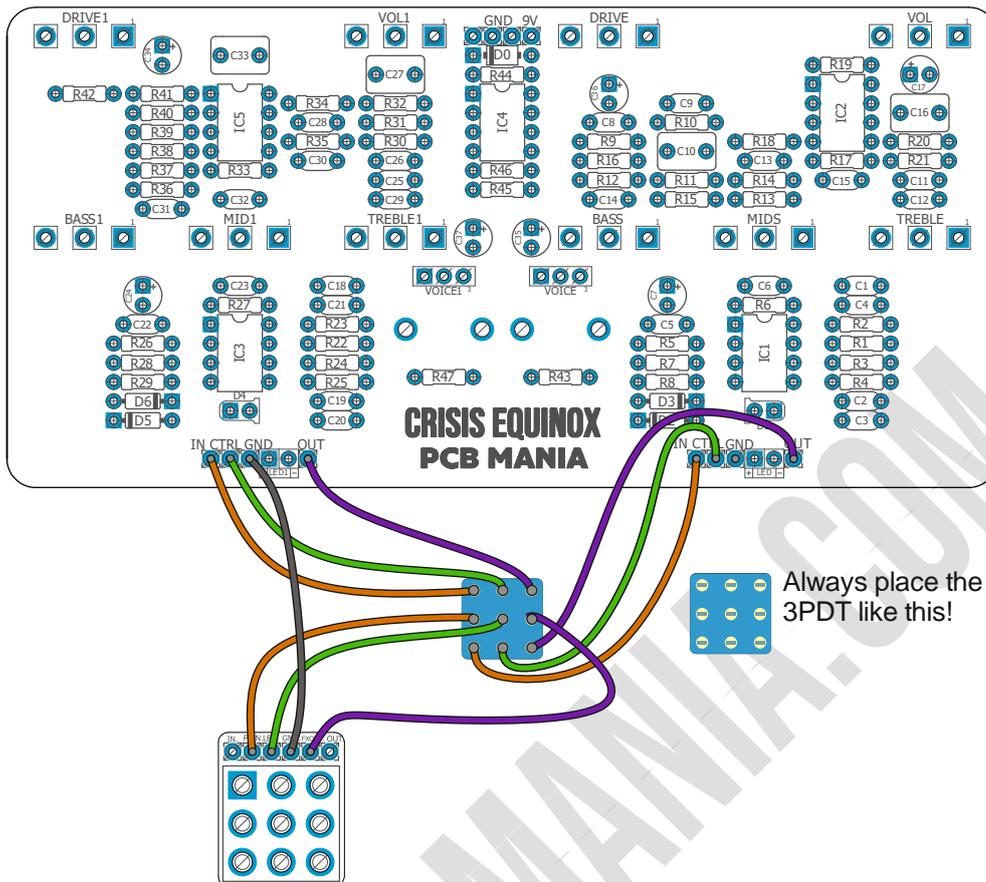
1. Resistors & diodes
2. Capacitors, starting with the smaller ones and the ceramic ones.
3. Electrolytic capacitors (always check the polarity)
4. Transistors
5. Wires
6. Potentiometers and switches
7. Off-board wiring

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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