Blue King

Based on:
King Tone Blues Power

Effect type:
Boost, Overdrive

Build difficult:
Intermediate

Number of parts:
Average, total 97 components

Technology:
Dual general-purpose operational amplifier

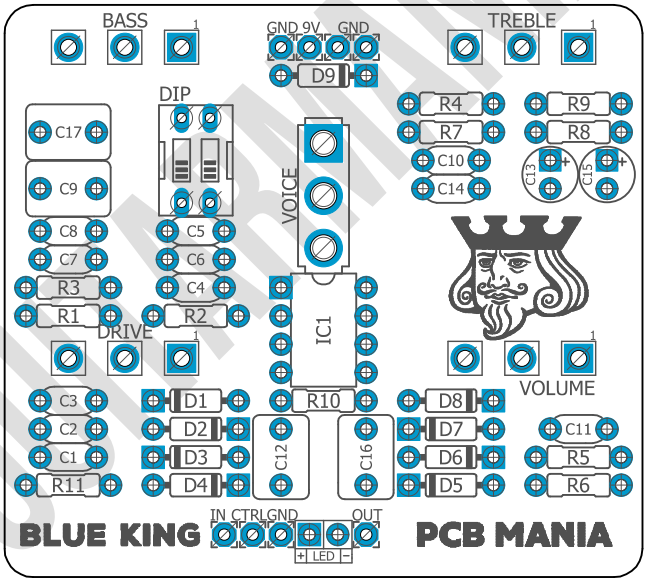
Power consumption:
9V

Enclosure type:
125b

Get your board at:
Blue King

Get your kit at:
Das Musikding (Europe)

Project overview:
This board has everything you need to sculpt your tone into full-range, stunning, smooth boost/overdrive sounding that will make your audience kneel before the absolute power of the Blue King!



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Introduction

Blue King is perfect for anyone who wants complete tonal command. With a set of responsive bass and treble controls, a wide range drive control, an adjustable middle frequency, and a volume knob that has enough output to drive even the most stubborn tube amp, this pedal rules the sound with an iron fist.

Get ready to boost or overdrive the entire frequency range, ideal for lifting the volume of fuzz pedals that can sound thin when boosted with other overdrives.

Go from glassy, tube amp-like overdrives to dark and powerful lead tones in no time.

We do not take responsibility if you go mad with tonal power after using this all-powerful pedal!

Controls

Potentiometers

- Bass
- Treble
- Volume

Switches

- Voice
- DIP

Bill of materials

Resistors	
Part	**Value**
R1	10k
R2	1k2
R3	3k9
R4	680r
R5	4k7
R6	4k7
R7	82r
R8	47k
R9	47k
R10	4k7
R11	1m
C2*	1m

Capacitors	
Part	**Value**
C1	100n
C3	47p
C4	3n3
C5	15n
C6	47n
C7	18n
C8	22n
C9	1u
C10	68n
C11	100p
C12	1u
C14	100n
C16	470n
C17	470n

Electrolytic Capacitors	
Part	**Value**
C13	120u
C15	120u

Potentiometers	
Part	**Value**
BASS	50K C
DRIVE	1M A
TREBLE	10K C
VOLUME	10K A

Switches	
Part	**Value**
VOICE	SPDT On/Off/On
DIP	Dip Switch two poles
-	3PDT Stomp foot

IC	
Part	**Value**
IC1	RC4558P

Diodes	
Part	**Value**
D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N4148
D6	1N4148
D7	1N4148
D8	1N4148
D9	1N5817

Jacks	
Part	**Value**
-	DC JACK
-	AUDIO JACK
-	AUDIO JACK

Shopping list

Resistors		
Qty	**Value**	**Parts**
1	10k	R1
1	1k2	R2
2	1m	R11, **C2***
1	3k9	R3
2	47k	R8, R9
3	4k7	R5, R6, R10
1	680r	R4
1	82r	R7

Capacitors		
Qty	**Value**	**Parts**
2	100n	C1, C14
1	100p	C11
1	15n	C5
1	18n	C7
2	1u	C9, C12
1	22n	C8
1	3n3	C4
2	470n	C16, C17
1	47n	C6
1	47p	C3
1	68n	C10

Electrolytic Capacitors		
Qty	**Value**	**Parts**
2	120u	C13, C15

Potentiometers		
Qty	**Value**	**Parts**
1	10K A	VOLUME
1	10K C	TREBLE
1	1M A	DRIVE
1	50K C	BASS

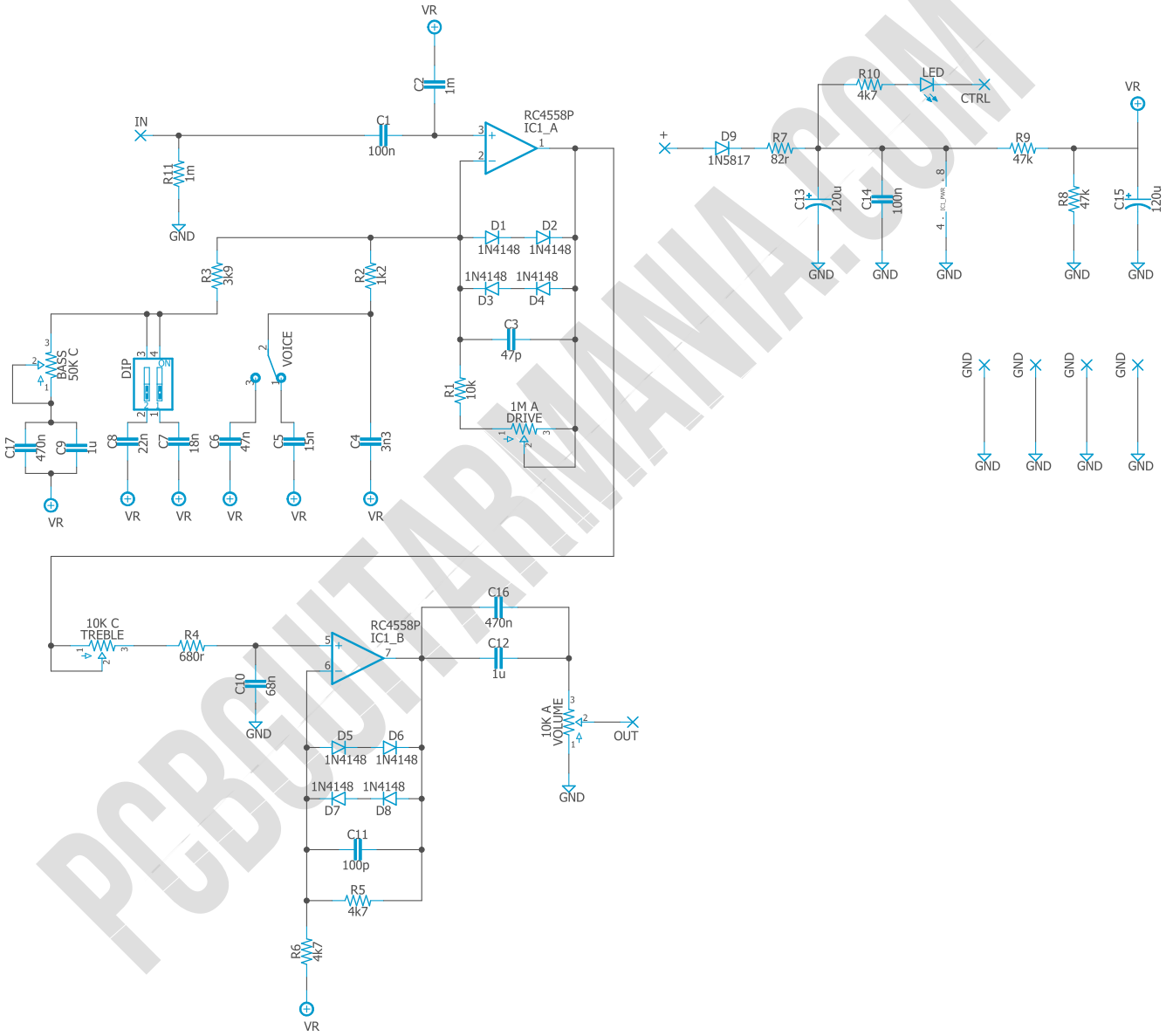
Switches		
Qty	**Value**	**Parts**
1	SPDT On/Off/On	VOICE
1	Dip Switch two poles	DIP
1	3PDT Stomp foot	-

IC		
Qty	**Value**	**Parts**
1	RC4558P	IC1

Diodes		
Qty	**Value**	**Parts**
8	1N4148	D1, D2, D3, D4, D5, D6, D7, D8
1	1N5817	D9

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

C2*

Due to a mistake, the first version of this board shows C2 as a capacitor. Place a 1m resistor.

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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