

# The Queen

## Based on:

Catalinbread Galileo MkII

## Effect type:

Treble booster + Preamp

## Build difficult:

Intermediate

## Amount of parts:

Average, total 56 components

## Technology:

JFET

## Power consumption:

9V

## Enclosure type:

125b

## Get your board at:

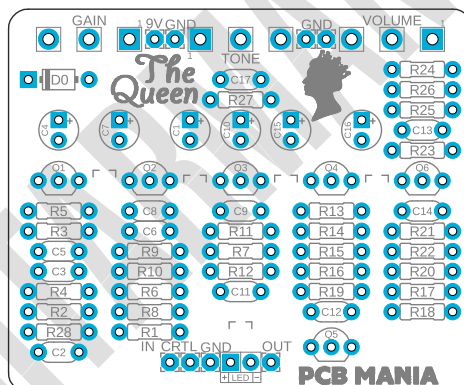
[The Queen](#)

## Get your kit at:

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

## Project overview:

Long live The Queen! If you ever wanted to capture one of the most recognizable tones that rocked the biggest stadiums all over the world, here's your chance!



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## Introduction

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Our Queen offers a certain combination of the legendary Rangemaster pushing the preamp of a classic AC30, but with the tubes swapped for a more size-friendly JFET transistor.

The Queen is capable of producing amp-like tones with minimum effort. With only 3 knobs (gain, tone, and volume), you can be sure to dial in the perfect tone and just focus on your playing. This pedal reacts great to your playing dynamics as well as the volume knob on your guitar, so it gives you a broad palette of sonic possibilities without even touching the pedal itself!

With the gain control, you can make the pedal sound like a clean AC30 for those rhythm parts and then roll it to 10 for maximum sustain on your lead parts. It can get angry and aggressive, yet chime-y and beautiful at the same time.

The tone knob, which is based around the treble control of the AC30, gives you the ability to dial in just the right amount of high frequencies, whether you're using a guitar equipped with humbuckers or single-coil pickups.

We will rock you? Hell yes, we will.

## Controls

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- GAIN
- TONE
- VOLUME

# Bill of material

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Resistors	
Part	Value
R1	4k7
R2	220k
R3	10k
R4	68k
R5	8k2
R6	100k
R7	470k
R8	1k
R9	680k
R10	1k
R11	1m
R12	1m
R13	56k
R14	470k
R15	1k
R16	1k
R17	1m
R18	1m
R19	10k
R20	100k
R21	62k
R22	12k
R23	1k
R24	2m2

R25	4k7
R26	2m2
R27	8k2
R28	1m

Capacitors	
Part	Value
C2	4n7
C3	47p
C5	10n
C6	100n
C8	100n
C9	470p
C11	220n
C12	47p
C13	22n
C14	22n
C17	10n

Electrolytics Capacitors	
Part	Value
C1	100u
C4	47u
C7	2u2
C10	22u

C15	1u
C16	1u

Potentiometers	
Part	Value
GAIN	5k C
TONE	1m A
VOLUME	250k B

Transistors	
Part	Value
Q1	P2N2222A
Q2	MPF4393*
Q3	MPF4393*
Q4	MPF4393*
Q5	MPF4393*
Q6	MPF4393*

Diodes	
Part	Value
D0	1n5817
LED	3mm Red LED

# Shopping list

Resistors		
Qty	Value	Parts
2	100k	R6, R20
2	10k	R3, R19
1	12k	R22
5	1k	R8, R10, R15, R16, R23
5	1m	R11, R12, R17, R18, R28
1	220k	R2
2	2m2	R24, R26
2	470k	R7, R14
2	4k7	R1, R25
1	56k	R13
1	62k	R21
1	680k	R9
1	68k	R4
2	8k2	R5, R27

Capacitors		
Qty	Value	Parts
2	100n	C6, C8
2	10n	C5, C17
1	220n	C11
2	22n	C13, C14
1	470p	C9
2	47p	C3, C12
1	4n7	C2

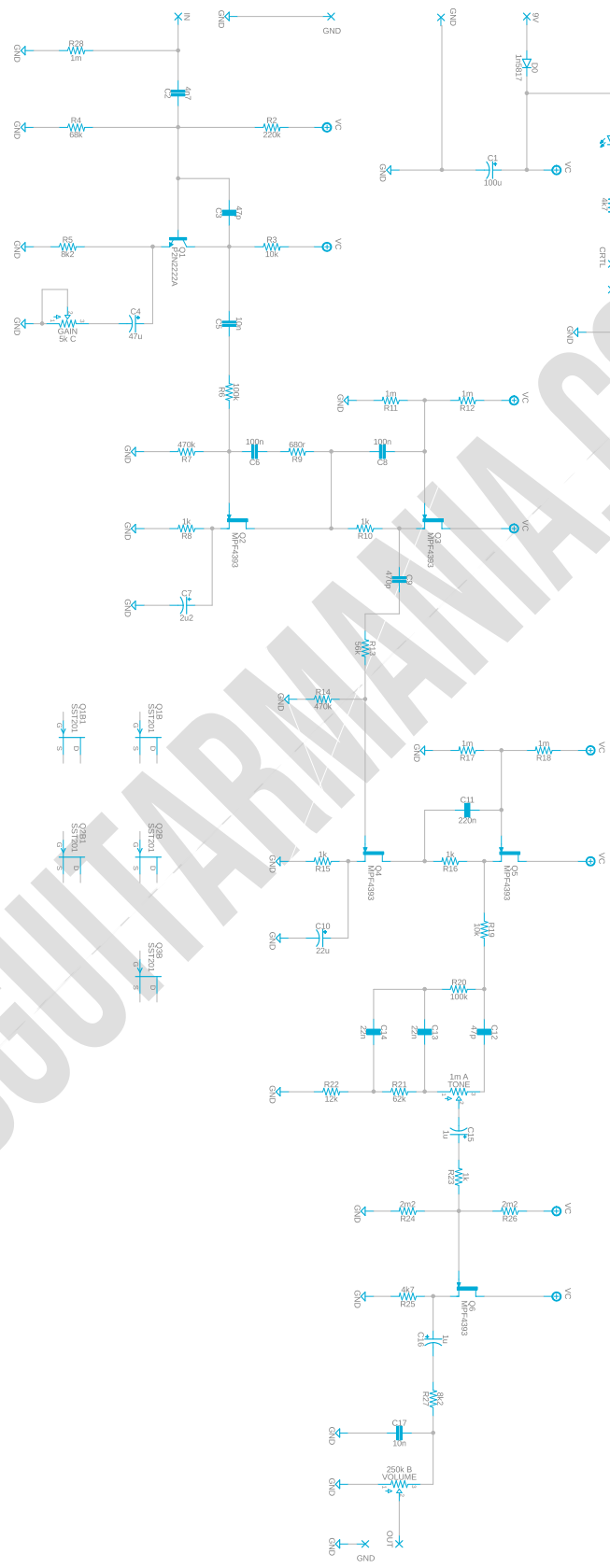
Electrolytics Capacitors		
Qty	Value	Parts
1	100u	C1
2	1u	C15, C16
1	22u	C10
1	2u2	C7
1	47u	C4

Potentiometers		
Qty	Value	Parts
1	1m A	TONE
1	250k B	VOLUME
1	5k C	GAIN

Transistors		
Qty	Value	Parts
5	MPF4393*	Q2, Q3, Q4, Q5, Q6
1	P2N2222A	Q1

Diodes		
Qty	Value	Parts
1	1n5817	D0
1	3mm Red LED	LED

# Schematic



# Components Recommendations

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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

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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

### **MPF4393\***

This JFET can be substituted by J201, 2N5457 or any similar JFET.

## Wiring Diagram

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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

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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

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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!