

Atom Boost

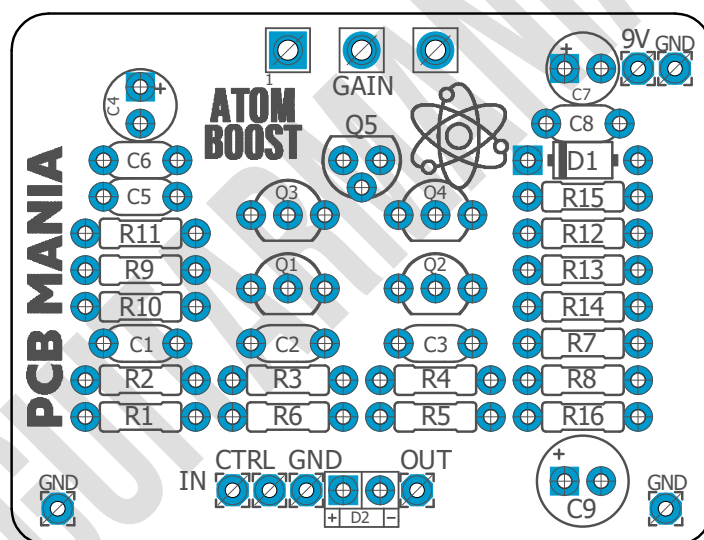
Based on:
TC Electronic Spark Mini Boost
Effect type:
Booster
Build difficult:
Beginner

Amount of parts:
Low, total 33 components
Technology:
NPN and PNP transistors
Power consumption:
9V(10mA)

Enclosure type:
1590b
Get your board at:
[Atom Boost](#)
Get your kit at:
[Das Musikding \(Europe\)](#)

Project overview:

Kick your playing into high gear with this Impressive 20 dB of completely clean boost makes your core tone shine through. A really straight forward project, easy to build, easy to play with!



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Introduction

The Atomic boost is based on the TC Electronics Spark™ and a perfect one knob beginner project to check if you are into DIY. Perfect suited to add some extra gain to your Leads or to get Crunch/driven sounds out of your semi dirty amp. Especially when your amp tempts to be a little to dark the nuance of brightness it adds can be very handy without making the signal harsh.

There are plenty equivalents and similar sounding transistors so I would recommend using dip sockets and start diving into creating your very own tone.

For instance you can use Q1-4 - BC547 (type a-b-c the higher the letter, the more gains they are) and for Q5 a - BC557C (flip it 180 degrees to the silkscreen!)

2n3906* PNP transistor. Although the original unit presents a BC558c transistor we have experienced better results with the listed 2n3906. You can still experiment with BC558c just by flipping the transistor 180 degrees. A higher gain direct replacement could be 2N5087.

BC549c NPN transistor. You can try 2N3904, 2N5088, 2N5089 replacement, just take in mind you need to flip the transistor 180 degrees to the silkscreen. The order listed is from lower to higher gain.**

Bill of materials

Resistors	
Part	Value
R1	1m2
R2	1k
R3	100k
R4	1k
R5	22k
R6	22k
R7	1k
R8	100k
R9	100k
R10	1k
R11	10k
R12	1k
R13	100k
R14	100r
R15	47k
R16	4k7

Capacitors	
Part	Value
C1	100n
C2	1n
C3	4n7
C5	100p
C6	100p
C8	100n

Electrolytics Capacitors	
Part	Value
C4	1u
C7	10u
C9	220u

Potentiometers	
Part	Value
GAIN	B500K

Transistors	
Part	Value
Q1**	bc549c
Q2**	bc549c
Q3**	bc549c
Q4**	bc549c
Q5*	2n3906

Diodes	
Part	Value
D1	1n5817
D2	3mm LED

Shopping list

Resistors		
Qty	Value	Parts
4	100k	R3, R8, R9, R13
1	100r	R14
1	10k	R11
5	1k	R2, R4, R7, R10, R12
1	1m2	R1
2	22k	R5, R6
1	47k	R15
1	4K7	R16

Capacitors		
Qty	Value	Parts
2	100n	C1, C8
2	100p	C5, C6
1	1n	C2
1	4n7	C3

Electrolytics Capacitors		
Qty	Value	Parts
1	10u	C7
1	1u	C4
1	220u	C9

Potentiometers		
Qty	Value	Parts
1	500k b	GAIN

Transistors		
Qty	Value	Parts
1	2n3906*	Q5
4	bc549c**	Q1, Q2, Q3, Q4

Diodes		
Qty	Value	Parts
1	1n5817	D1
1	3mm LED	D2

Build Notes

If this is one of your first projects I recommend you to take a look on 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 control slug of your 3PDT.

This board has been designed to match our EZ 3PDT PCB check it [here](#) to access to our [Pedal Wiring Guide](#)

Drill Template

This Project has been planned to fit into a 1590b enclosure type.

Check the Attached "Drilling templates" to drill the box properly. The files are on Scale 1:1, ready to print in an A4 page.

Licensing and Usage

We really appreciate your trust and support buying this PCB, as well as your will to dive into the DIY electronics world. That's why for us is really important that you can make this project work properly and to enjoy not only the building process, but also to experiment and play with it on your rig.

We try to reply to every question we receive on our email or in our social media, but we try to encourage all our customers to join our [PCB Guitar Mania - Builders Group](#) on Facebook, in order to post all your

doubts, issues, suggestions or request, as well to share your builds and have some feedback from us and other fellow builders!

All of our projects have been tested following this same guide on their standard configurations. Although, not all of the variations and mods have necessarily been tested. These are suggestions based on the schematic analysis, and on the experiences and opinions of others. Feel free to share with us your opinions and suggestions regarding the mods your own personal experimentation.

These boards may be used for commercial endeavors in any quantity unless specifically noted. No attribution is necessary, though accreditation or a link back is always greatly 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 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 silk screen, 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 own designs, with your brand and logo we could certainly reach an agreement.

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