GuitarPCB Presents

Dual Combo Series - Electric Warrior

Prepare for a 70s rock explosion. The ModBender fuzz and Rock Candy distortion collide in this dual combo, delivering the raw, roaring guitar tones of the early 70s. All packed into a 1590BB2 footprint.

- **The ModBender section delivers raw MKII-style fuzz. Thick, sustaining, and unapologetically 70s, it turns single notes into soaring leads.**
- **The Rock Candy section brings op-amp distortion crunch. Tight, aggressive, and ready to roar, it is built for chunky rhythm work and cutting leads.**
- **Stacking both circuits unlocks everything from gritty rhythm grind to searing lead sustain, covering the full range of early 70s rock guitar.**
- **Equipped with built-in Order switching, you have complete control over your tone. It's like having an entirely different pedal at the flip of a switch. (Use a short shaft / stubby style switch).**

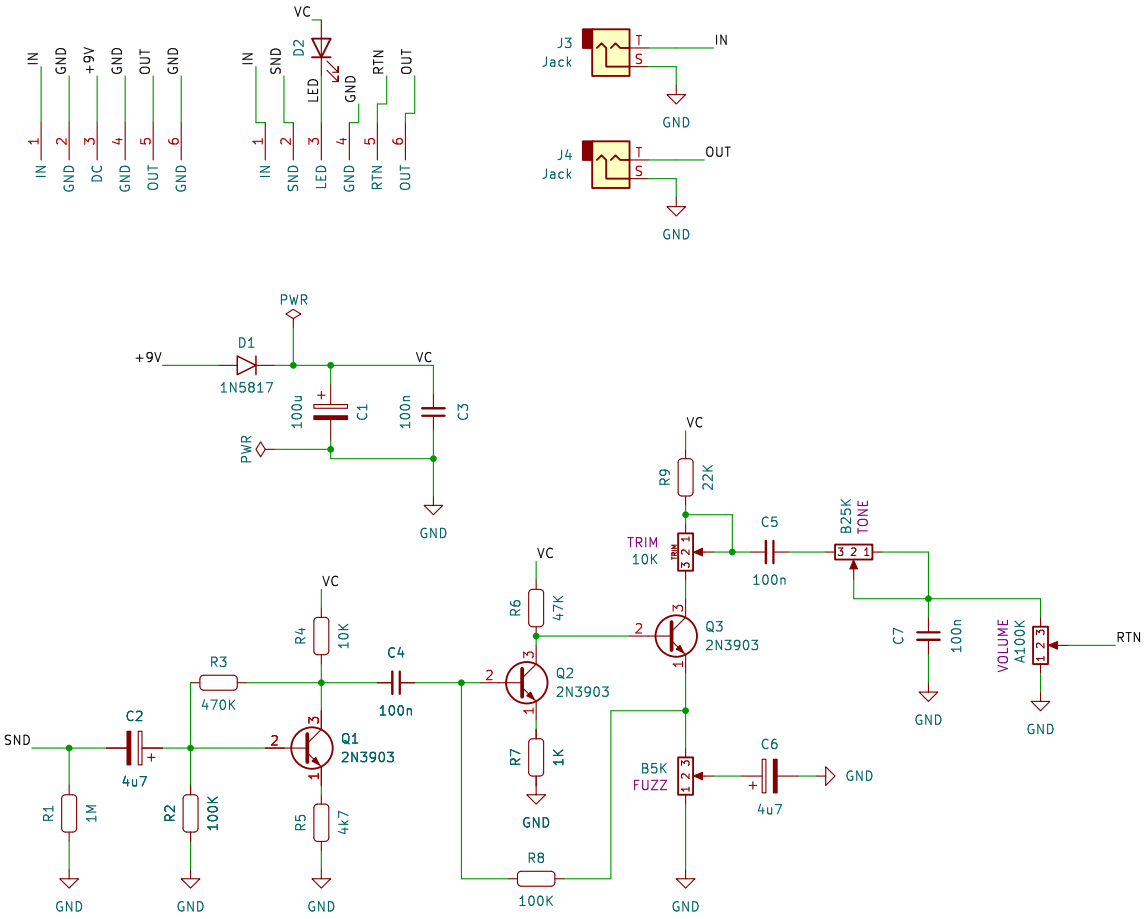


Order switching is built-in, with pin header connections making wiring a breeze.

Ideal for a 1590BB2 enclosure, featuring the same dimensions as a 1590BB but with 125B clearance for jacks.

Included with each Dual Combo purchase. – (2) Mainboards, (2) pin headers, (1) Dual wiring board.

Part 1: ModBender Schematic:



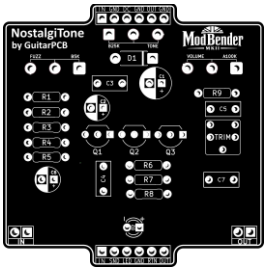
Bill of Materials Modbender

PART	VALUE
R1	1M
R2	100K
R3	470K
R4	10K
R5	4k7
R6	47K
R7	1K

PART	VALUE
R8	100K
R9	22K
C1	100u
C2	4u7
C3	100n
C4	100n

PART	VALUE
C5	100n
C6	4u7
C7	100n
Q1	2N3903
Q2	2N3903
Q3	2N3903

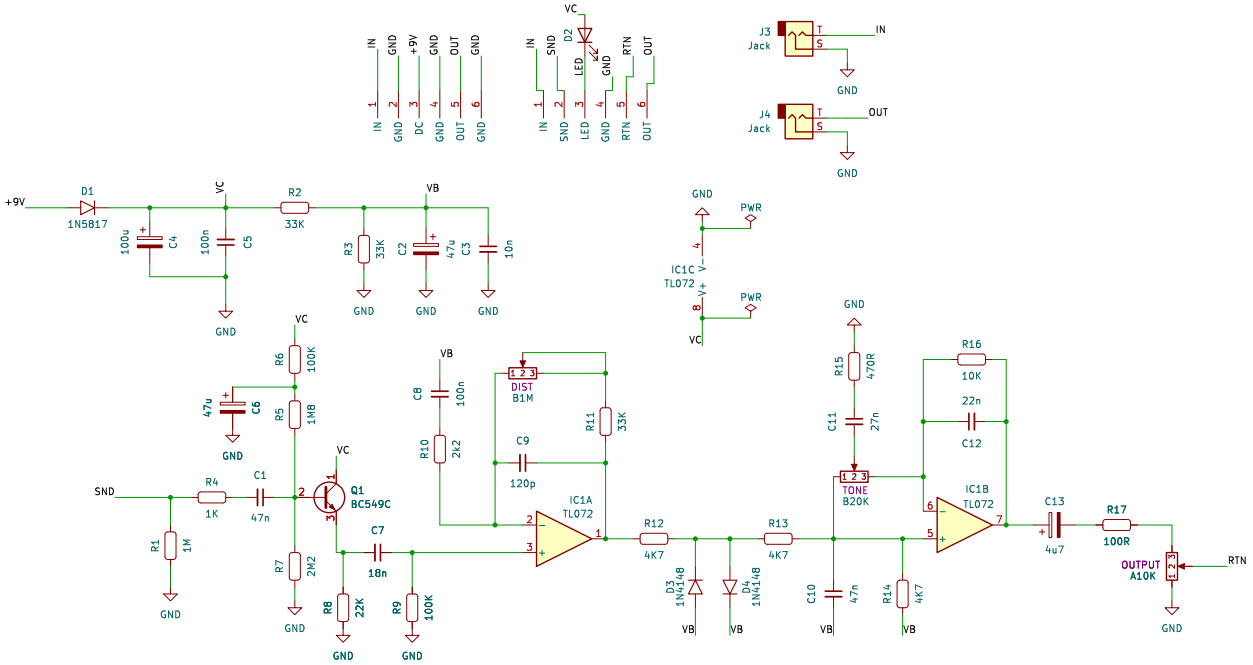
PART	VALUE
D1	1N5817
D2	Status LED
TRIM	10K
FUZZ	B5K
TONE	B25K
VOLUME	A100K
* CLR x1	1k8 - 4k7



TRIM Adjustment

With the circuit powered at 9V, connect your multimeter black probe to ground and measure the voltage at the Q3 collector (left pad). Adjust the 10K bias trim until the reading is approximately 4.5V. Fine adjustment by ear is encouraged to achieve the final desired tone.

Part 2: Rock Candy Schematic



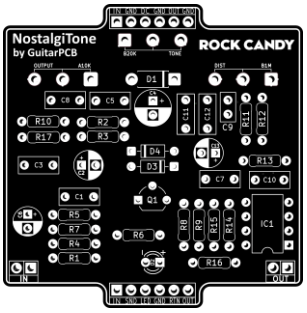
Bill of Materials Rock Candy:

PART	VALUE
R1	1M
R2	33K
R3	33K
R4	1K
R5	1M8
R6	100K
R7	2M2
R8	22K
R9	100K
R10	2k2
R11	33K

PART	VALUE
R12	4K7
R13	4K7
R14	4K7
R15	470R
R16	10K
R17	100R
C1	47n
C2	47u
C3	10n
C4	100u

PART	VALUE
C5	100n
C6	47u
C7	18n
C8	100n
C9	120p
C10	47n
C11	27n
C12	22n
C13	4u7
* Q1	BC549C

PART	VALUE
D1	1N5817
D2	Status LED
D3	1N4148
D4	1N4148
IC1	TL072
DISTORTION	B1M
TONE	B20K
OUTPUT	A10K
* CLR x1	1k8 - 4k7



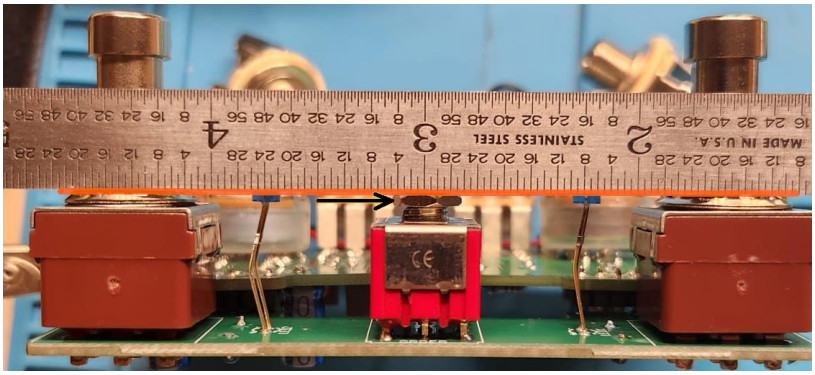
*** You'll need a 3PDT toggle switch On/On (solder lug version) with a short shaft for order switching on the dual wiring board PCB.**

Build Notes:

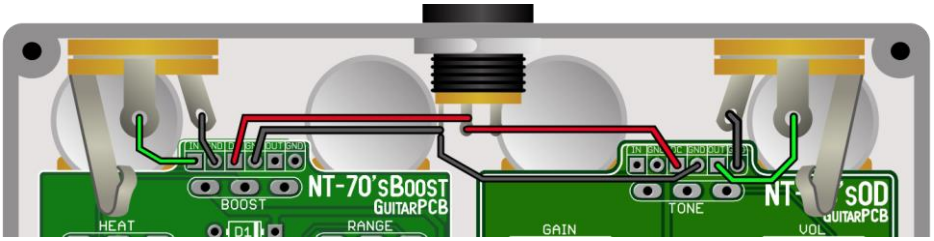
1. **Be sure to solder the 3PDT switches to the correct side of the Dual Combo wiring board. Silkscreen: Switches go on bottom.**
2. **Solder the short side of both pin headers to the top of each main board, pointing upward. Next, solder all three switches, and (CLRs), to the dual wiring board. Crimp hang the LEDs (optional) if mounting to the dual wiring board.**
3. **Since the Dual PCB offers an additional LED Status location, you can choose your preferred setup. Whichever option you pick, solder a small jumper on the unused LED pads. (CLRs) are essential regardless of the installation choice.**
4. **Remove <u>both nuts</u> on each of the 3PDT foot switches for the best height match. Adjust the height of the Order Switch height adjustment nut so it is level with the foot switches (see photo next page). Do not over-tighten.**
5. **Install the Dual PCB by sliding it over both pin headers. Once the foot switches and toggle switch are secured correctly within the enclosure, proceed to solder the long side of the pin header to the dual wiring board.**
6. **There are two (CLR) Current Limiting Resistors crucial to protect and adjust the brightness of their corresponding status LED. You may use a value of 1k8 (Bright) to 4k7 (Dim).**



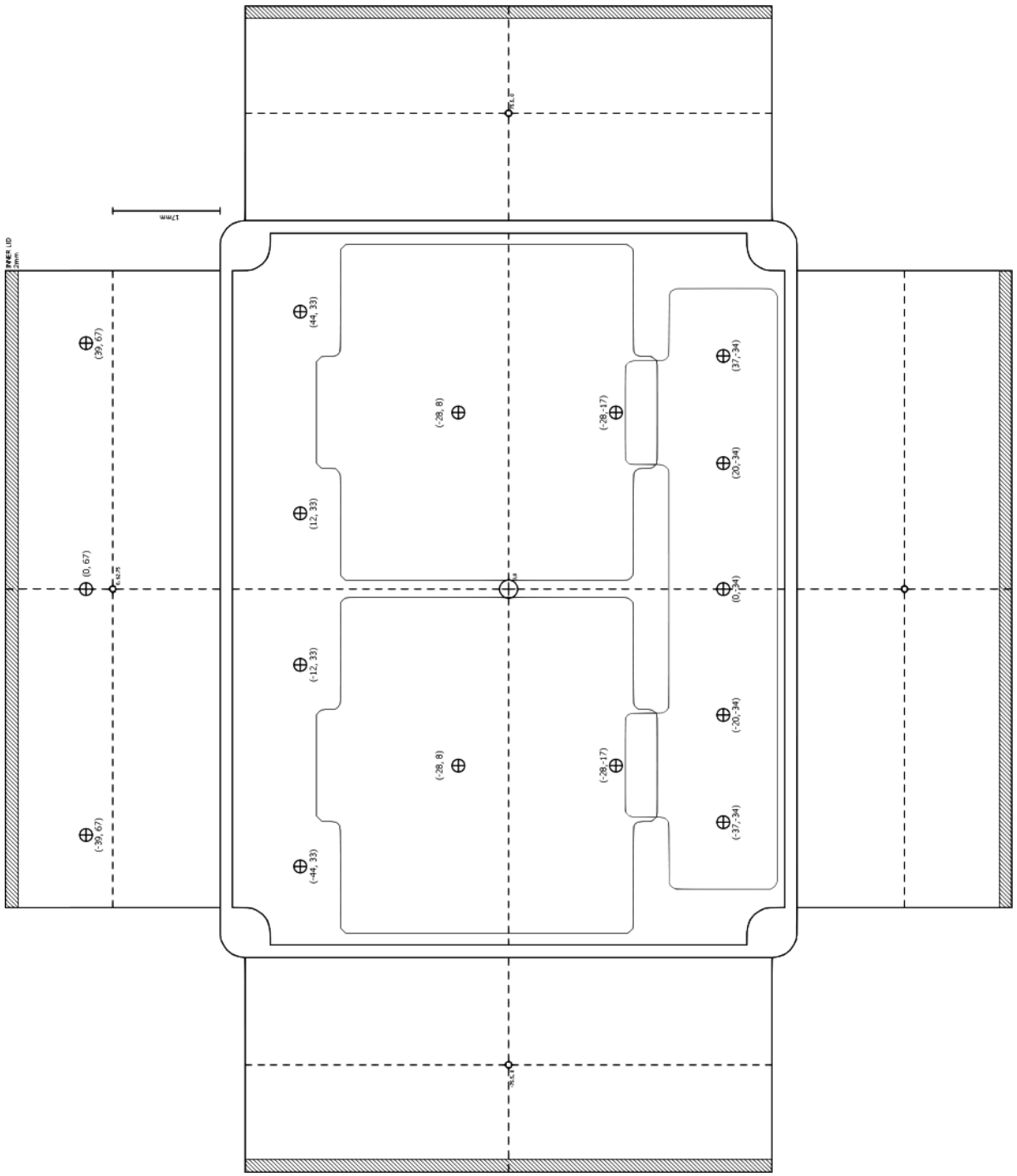
Easy Pre-installation Height Adjustment



Easy Wiring Diagram



This Build Document, PCB, Artwork and Schematic image are property of ©GuitarPCB.com
All copyrights, trademarks and artworks remain the property of their owners.
Any company or product names used are for identification and educational purposes only.
GuitarPCB is in no way affilliated with any said companies and are not to be misrepresented.



1590BB2 Drill Template

Drill only the holes required for your chosen project. LED holes can be located on either the wiring board or the main boards, giving you flexibility in how you lay out your build.

A link to a Tayda-drilled enclosure is available on the GuitarPCB Shop page. If you use the Tayda-drilled enclosure, both status LEDs must be installed on the dual wiring board.