Project Title

Short project description or subtitle

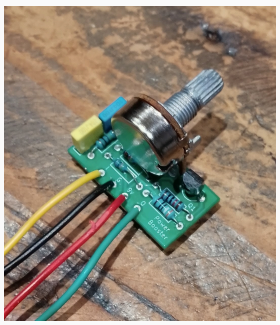


Figure 1: *Completed Build Overview*

Overview

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A Linear Power Booster is one of the ultimate foundational circuits in guitar effects history. Designed to give your signal a clean, transparent lift without altering your core tone, it acts as a “more” button for your rig. Whether used as an always-on enhancer to push your amp into natural, touch-sensitive breakup, a solo boost to cut through the mix, or a line driver at the end of a pedalboard chain, its versatility is unmatched.

This custom-designed kit packs professional performance into an ultra-compact footprint specifically engineered to fit snugly inside a tiny 1590A enclosure—making it a perfect addition to even the most crowded pedalboards.

Key Features & Circuit Highlights

- Low Parts Count & Beginner Friendly: With a minimalist design and straightforward layout, this circuit is an ideal first build for soldering novices while remaining a satisfying, quick build for seasoned veterans.
- BC549C Transistor: At the heart of the booster is a low-noise, high-gain BC549C NPN transistor. It provides exceptional signal fidelity, very low noise floor, and a warm, dynamic response that cleans up beautifully when you roll back your guitar’s volume knob.
- Board-Mounted Straight Potentiometer: Utilizing a direct, PCB-mounted potentiometer eliminates messy off-board wiring, streamlines assembly, and ensures a mechanically rigid, reliable build that stands up to heavy stomping.
- Ultra-Compact 1590A Layout: Thoughtfully routed traces and component placement allow the entire circuit and control interface to drop effortlessly into a miniature 1590A enclosure.

Recommended Specifications & Controls

- Enclosure / Housing:1590A or 1590B.
- Power Requirements:9v DC center negative.

Tools & Workshop Accessories

Building projects cleanly and reliably requires a standard set of workbench tools.

Essential Soldering & Assembly Gear

Tool / Equipment	Specification & Purpose
Soldering Station	Temperature-controlled iron (set to appropriate soldering temperature) with a suitable tip.
Solder Wire	Tin/Lead rosin-core solder (recommended diameter for through-hole work).
Desoldering Tools	Desoldering pump or braided copper wick for cleaning up mistakes.
Flux Pen	Rosin flux pen to improve solder flow on stubborn component pads.

Hand Tools & Hardware

Tool / Equipment	Specification & Purpose
Flush Cutters	Precision diagonal cutters for trimming component leads.
Needle-Nose Pliers	For bending component leads, holding parts, and tightening hardware.
Wire Strippers	For preparing hook-up wire connections.
Digital Multimeter	Essential for checking values, continuity, and voltages.

PCB Stencil & Mask Reference

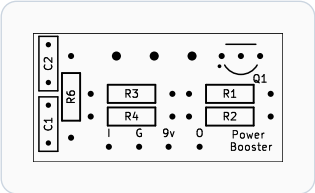


Figure 2: *PCB Stencil and Mask Reference View.*

Bill of Materials (BOM)

Components

Ref	Qty	Value	Comment
R1	1	10k	1/4W Resistor
R2	1	390r	1/4W Resistor
R3	1	430k	1/4W Resistor
R4	1	43k	1/4W Resistor
R6	1	1Meg	1/4W Resistor
LED	1	RED	
C1,C2	2	100n	Film Capacitor
Q1	1	BC549c	NPN silicon transistor
RV1	1	100k	Log potentiometer
Power	1	DC Jack	2.1mm barrel jack
Input/output	2	1/4″ mono jack	
Switch	1	3PDT	

Component Placement & Assembly Sequence

Assemble components in order of physical height to simplify soldering:

1. **Low-Profile Parts:** Solder low-profile components first (resistors, small diodes).
2. **Sockets & Active Components:** Install IC sockets, transistors, or regulators, paying close attention to pin orientation.
3. **Capacitors:** Install film and ceramic capacitors, followed by polarized electrolytic capacitors (checking polarity markings).
4. **Off-Board Wiring:** Prepare and solder wiring leads or board-mounted hardware.

Circuit Schematic

