



SHUTTER (v3.5F) DIY BUILD GUIDE

This build guide assumes the user has basic knowledge of through hole components, soldering skills and various tools required to Do-It-Yourself. Assemble at your own risk and have fun.

SHUTTER is an 8HP module with two PCBs. Both are to be assembled and connect to each other on the back-side with stackable headers.

STEP BY STEP

0. Both PCB (1/3) and PCB (2/3) should be populated together. The BOM listed includes parts for both boards.

1. Populate all resistors and ferrite beads. Solder and clip leads.

2. Populate all diodes, taking care to align the black band on the diode with the stripe shown on the PCB. Solder and clip leads.

3. Populate all of the ceramic capacitors. Solder and clip leads.

4. Populate all of the ICs, taking care that the notch at the top of the IC lines up with the notch shown on the PCB. Match the shape of the TL431 with the shape of the silkscreen on the PCB. Solder leads, clip if needed.

5. Populate the IDC power connector, taking care to line up the notch on the part with the notch shown on the PCB. Hold the connector in place while soldering

6. Populate the electrolytic capacitors, taking care to line up the black stripe on the caps with the outlined via on the PCB. Solder and clip leads.

BILL OF MATERIALS

Resistors

<input type="checkbox"/> 11x	100K resistor
<input type="checkbox"/> 15x	1K resistor
<input type="checkbox"/> 1x	20K resistor
<input type="checkbox"/> 1x	4.99K resistor
<input type="checkbox"/> 17x	499R resistor

Capacitors

<input type="checkbox"/> 1x	330n cap
<input type="checkbox"/> 5x	10u/25V cap
<input type="checkbox"/> 18x	100n cap

Diodes

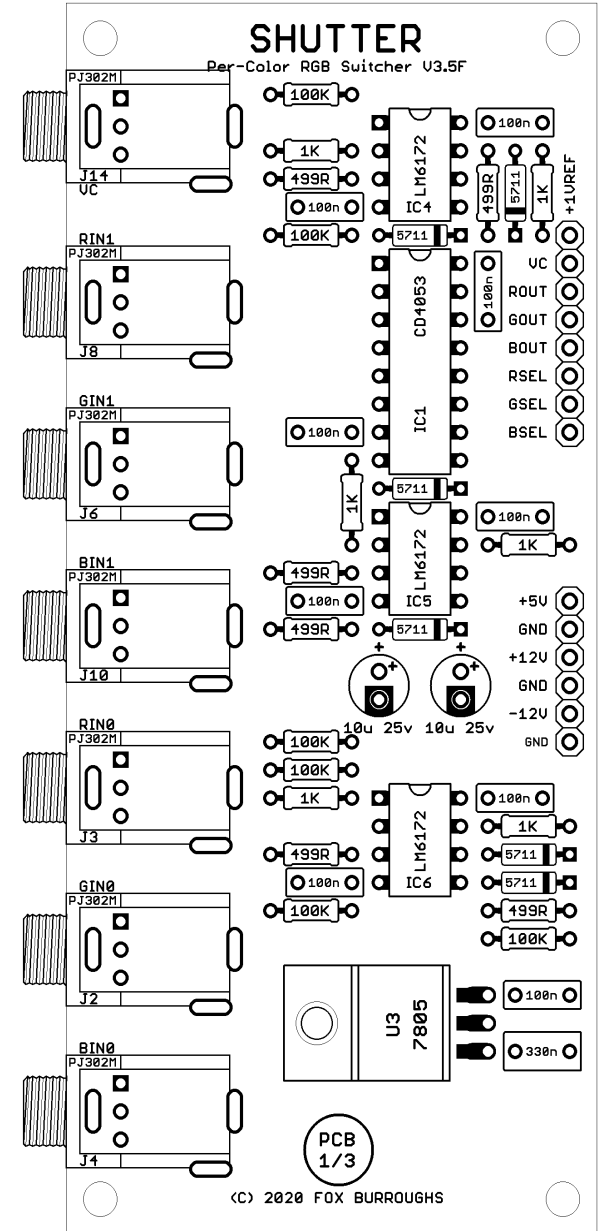
<input type="checkbox"/> 2x	1N4001 diode
<input type="checkbox"/> 12x	1N5711 diode
<input type="checkbox"/> 2x	68R ferrite bead

Integrated Circuits

<input type="checkbox"/> 1x	CD4053
<input type="checkbox"/> 6x	LM6172
<input type="checkbox"/> 1x	TL072
<input type="checkbox"/> 1x	L7805

Other Parts

<input type="checkbox"/> 1x	B100K potentiometer
<input type="checkbox"/> 13x	PJ302M Jacks
<input type="checkbox"/> 13x	3.5mm nuts
<input type="checkbox"/> 1x	2x5 Polarized IDC Power Header
<input type="checkbox"/> 1x	10-16 Ribbon Cable
<input type="checkbox"/> 1x	SHUTTER PCB (1/3)
<input type="checkbox"/> 1x	SHUTTER PCB (2/3)
<input type="checkbox"/> 1x	SHUTTER Faceplate (3/3)
<input type="checkbox"/> 1x	6-pin stackable header
<input type="checkbox"/> 1x	8-pin stackable header
<input type="checkbox"/> 1x	6-pin male header
<input type="checkbox"/> 1x	8-pin male header
<input type="checkbox"/> 1x	Davies Knob (Transparent)



FOX

7. Set aside PCB (2/3) for now. Place all jacks into PCB (1/3) but do not solder them. Install the faceplate and finger tighten all nuts onto the jacks to make sure the jacks are all straight, then solder. Remove the faceplate from the PCB.

8. Now place all jacks and pot into PCB (2/3) but do not solder them. Install the faceplate and finger tighten all nuts onto the jacks and pot to make sure they are all straight, then solder.

9. Now the most important step. Connect your male headers and the stackable headers together. With both boards installed in the faceplate, place the long headers in the back. Flip the board over so that the male header is on the bottom. Solder them in place.

10. Carefully check the solder of each component for bridges and any solder joints that may have been missed. Clean excess flux with alcohol.
You may now test it your work.

