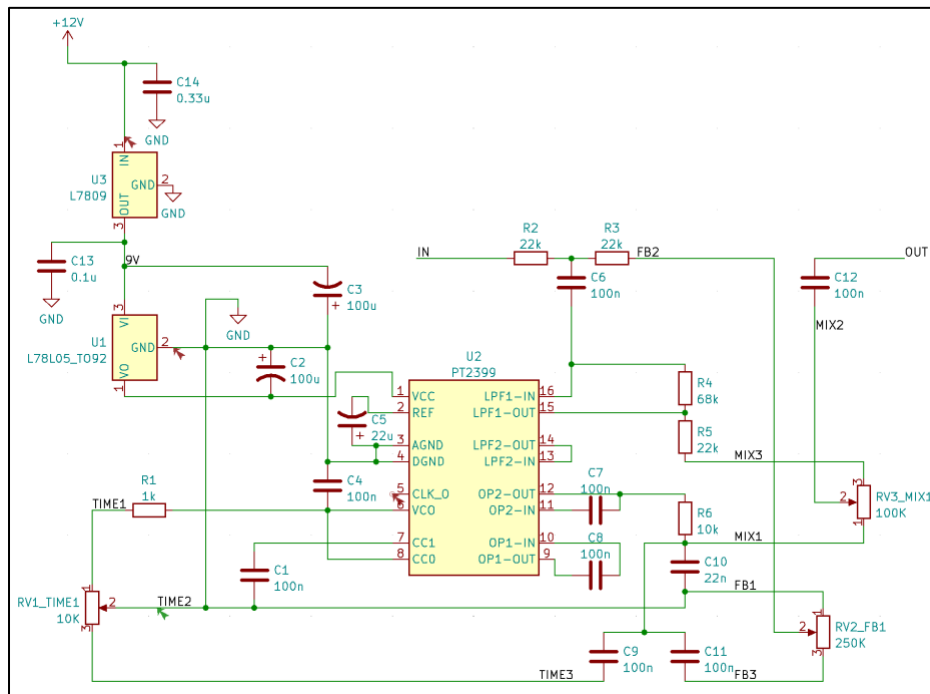


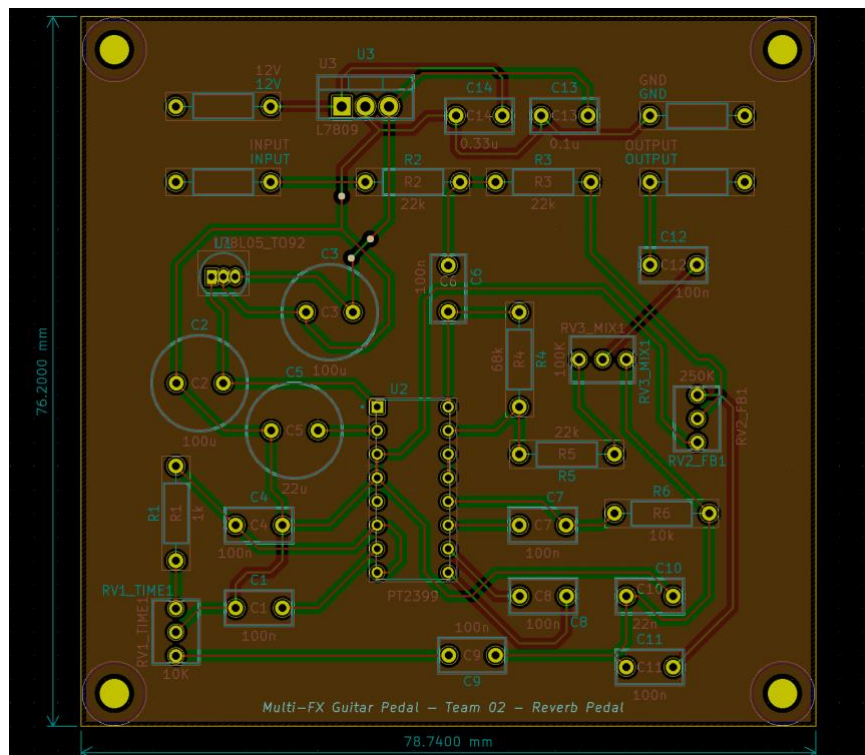
ECE 49022 – Team 02 (Multi-FX Guitar Pedal) – Reverb Pedal – Michael Scirocco

a) Schematic:

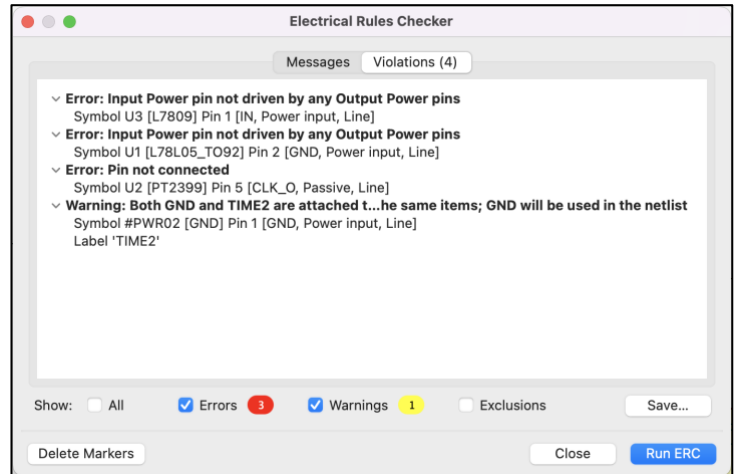


b) (Please see attached Gerber files)

c) PCB:



d) Proof of DRC/ERC checks:



ERC Comments: The first two errors are the schematic not recognizing the +12V symbol as a power source. The third error is for a pin that does not need to be connected.

e) Centroid file: N/A, we are soldering the components in ourselves.

f) Printout of planned order from manufacturer's website:

PCB Specification Selection

How it works (3 steps) Quick-order PCB >>

Board type: ☒ Single pieces ☐ Panel by Customer ☐ Panel by PCBWay

Different Design in Panel: 1 2 3 4 5 6 e.g.

* Size (single): 76.20 X 78.74 mm inch↔mm

* Quantity (single): 5 pcs

Layers: 1 Layer ☒ 2 Layers 4 Layers 6 Layers 8 Layers 10 Layers 12 Layers 14 Layers

Material: ☒ FR-4 ☐ Aluminum ☐ Rogers ☐ HDI(Buried/blind vias) ☐ Copper Base

FR4-TG: TG 130-140 ☒ TG 150-160 TG 170-180 S1000H TG150

Thickness: 0.2 0.3 0.4 0.6 0.8 1.0 1.2 ☒ 1.6 2.0 2.4 2.6 2.8 3.0 3.2

Min Track/Spacing: 3/3mil 4/4mil 5/5mil 6/6mil ☒ 8/8mil

Min Hole Size: 0.15mm 0.2mm 0.25mm ☒ 0.3mm 0.8mm 1.0mm No Drill

Solder Mask: ☒ Green ☐ Red ☐ Yellow ☐ Blue ☐ White ☒ Black

Silkscreen: ☒ White ☐ Black ☐ None

Edge connector: ☒ Yes ☐ No

Surface Finish: ☒ HASL with lead ☐ HASL lead free ☐ Immersion gold(ENIG) ☐ OSP ☐ Hard gold ☐ Immersion silver(Ag)

Via Process: ☒ Tenting vias ☐ Plugged vias ☐ Vias not covered

Finished Copper: Bare board(0 oz Cu) ☒ 1 oz Cu 2 oz Cu 3 oz Cu 4 oz Cu 5 oz Cu 6 oz Cu 7 oz Cu

Price Comparison Matrix

| Build Time | Qty | Total |
|-----------------|-----|----------|
| 3-4 days | 5 | \$ 6.50 |
| Express 48hours | 5 | \$ 40.48 |
| Express 24hours | 5 | \$ 65.06 |

Final price is subject to our review.

Shipping Cost: US \$23.13

UNITED STATES OF AMERICA

DHL 2-4 business days, wt:0.11kg

Payment before 2022/10/15 06:00 (GMT+8 Only PCB)

Shipment Date: 2022/10/18 AM Delivery Date: 2022/10/21

PCB Cost: US \$ 6.50

Shipping: US \$ 23.13

Total: US \$ 29.63

Save to Cart

*Requirement of Min Track/Spacing: ≥ 3/3mil for sample orders, or ≥ 3.5/3.5mil for bulk orders.

g) Complete and final bill of materials (BOM):

- Resistors:
 - 1kOhm – 1x
 - 10kOhm – 1x
 - 22kOhm – 3x
 - 68kOhm – 1x
- Capacitors:
 - 100n – 8x
 - 100u – 2x
 - 22u – 1x
 - 22n – 1x
 - 0.1u – 1x
 - 0.33u – 1x
- Potentiometers:
 - 10k – 1x
 - 250k – 1x
 - 100k – 1x
- Other:
 - 78L05 (3-Terminal Voltage Regulator) – 1x
 - L7809 (Linear Voltage Regulator) – 1x
 - PT2399 (CMOS Echo/Delay Processor) – 1x

h) Responses to rubric questions:

| | |
|---|-----------------|
| What manufacturer do you plan to use: | PCBWay |
| What is the lead + shipping time: | 8 business days |
| What quantity do you intend to order: | 5 |
| Manufacturer specifications | |
| Maximum number of layers: | 10 |
| Surface finish: | HASL with lead |
| Copper weight: | 1 oz Cu |
| Minimum solder mask clearance: | 0 mm |
| Minimum drill hole size: | 0.2 mm |
| Minimum trace width: | 0.1mm/4mil |
| Minimum trace spacing: | 0.1mm/4mil |
| Minimum via to trace spacing: | 0.15 mm |
| Blind / Buried vias: both | |
| <u>Yes</u> / No | |
| Have you configured your tools DRC based on these specifications: | |
| <u>Yes</u> / No | |

Does your PCB require a stencil to populate:

Yes / No

If so, do you have a plan to order one:

Yes / No

All components fit on PCB printed 1:1 scale:

Yes / No

Checked for and corrected issues from appendix 1 checklist:

Yes / No

Your team name and number is clearly visible in the silkscreen:

Yes / No