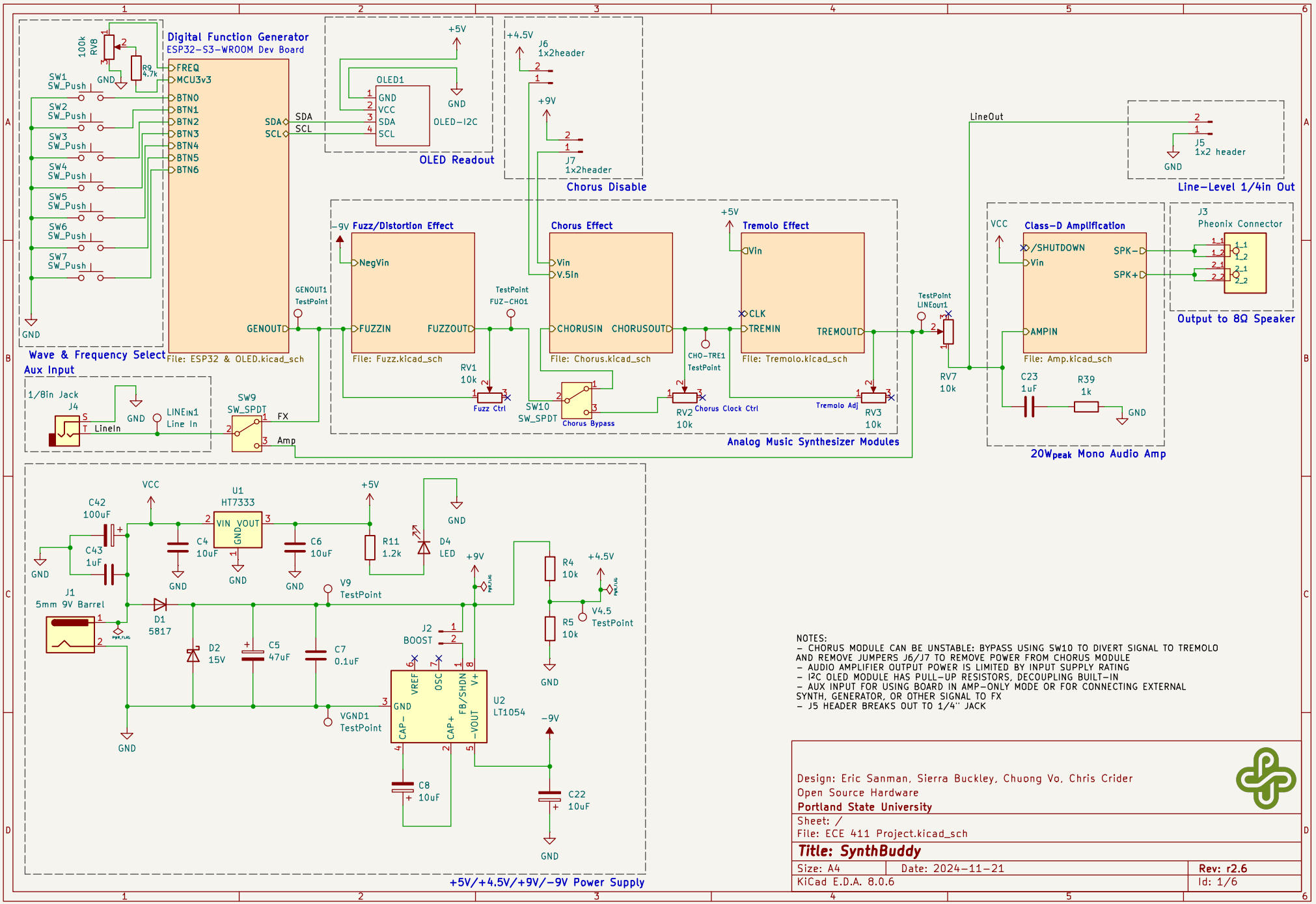
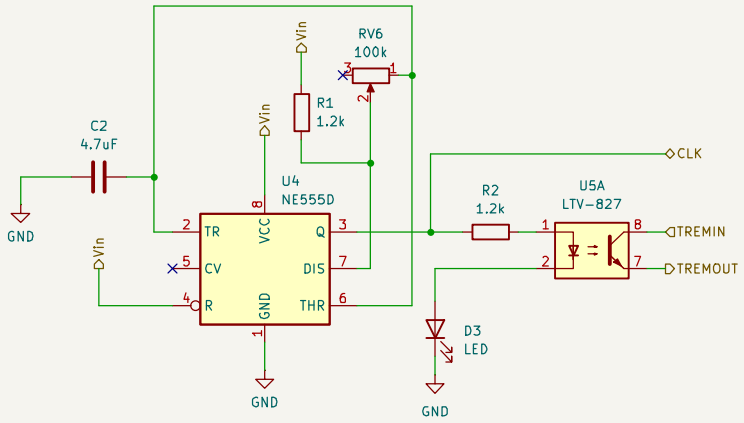

Digital Function Generator
ESP32-S3-WROOM Dev Board
Wave & Frequency Select
File: ESP32 & OLED.kicad_sch
OLED Readout
OLED-I2C
Chorus Disable
Line-Level 1/4in Out
Aux Input
1/8in Jack
Fuzz/Distortion Effect
File: Fuzz.kicad_sch
Chorus Effect
File: Chorus.kicad_sch
Tremolo Effect
File: Tremolo.kicad_sch
Analog Music Synthesizer Modules
Class-D Amplification
File: Amp.kicad_sch
Output to 8Ω Speaker
20Wpeak Mono Audio Amp
+5V/+4.5V/+9V/-9V Power Supply
NOTES:
- CHORUS MODULE CAN BE UNSTABLE: BYPASS USING SW10 TO DIVERT SIGNAL TO TREMOLO AND REMOVE JUMPERS J6/J7 TO REMOVE POWER FROM CHORUS MODULE
- AUDIO AMPLIFIER OUTPUT POWER IS LIMITED BY INPUT SUPPLY RATING
- I2C OLED MODULE HAS PULL-UP RESISTORS, DECOUPLING BUILT-IN
- AUX INPUT FOR USING BOARD IN AMP-ONLY MODE OR FOR CONNECTING EXTERNAL SYNTH, GENERATOR, OR OTHER SIGNAL TO FX
- J5 HEADER BREAKS OUT TO 1/4" JACK
Design: Eric Sanman, Sierra Buckley, Chuong Vo, Chris Crider
Open Source Hardware
Portland State University
Sheet: /
File: ECE 411 Project.kicad_sch
Title: SynthBuddy
Size: A4
Date: 2024-11-21
Rev: r2.6
KiCad E.D.A. 8.0.6
Id: 1/6

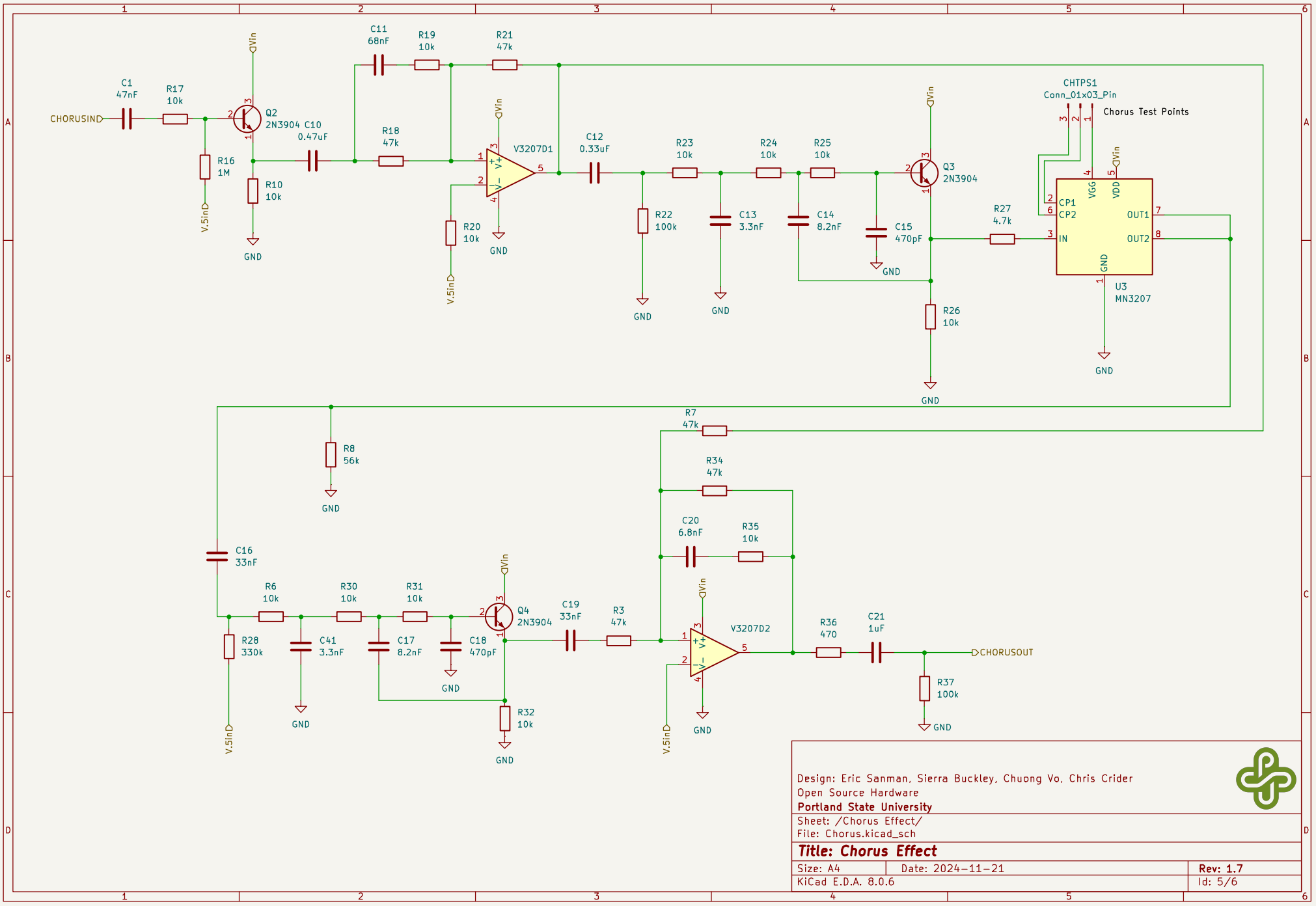


Design: Eric Sanman, Sierra Buckley, Chuong Vo, Chris Crider
Open Source Hardware
Portland State University

Sheet: /Tremolo Effect/
File: Tremolo.kicad_sch

Title: Tremolo Effect

Size: A4	Date: 2024-11-21	**Rev: r2.5**
KiCad E.D.A. 8.0.6		Id: 4/6

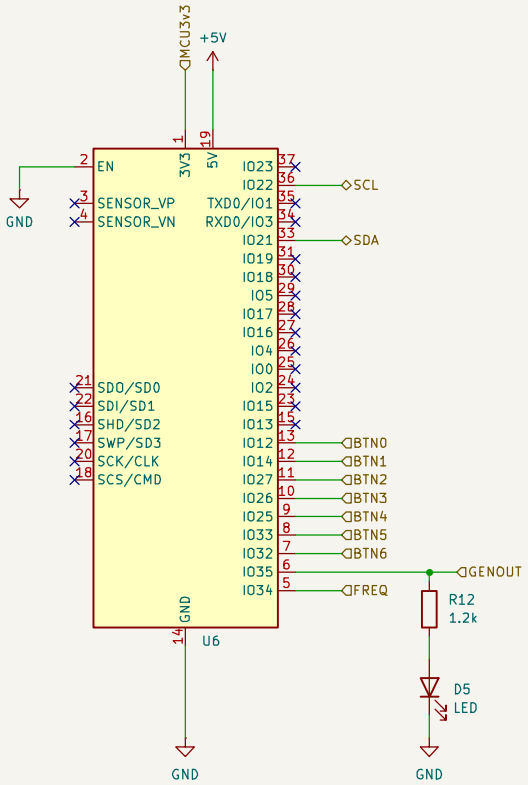


Design: Eric Sanman, Sierra Buckley, Chuong Vo, Chris Crider
Open Source Hardware
Portland State University

Sheet: /Chorus Effect/
File: Chorus.kicad_sch

Title: Chorus Effect

Size: A4	Date: 2024-11-21	**Rev: 1.7**
KiCad E.D.A. 8.0.6		Id: 5/6

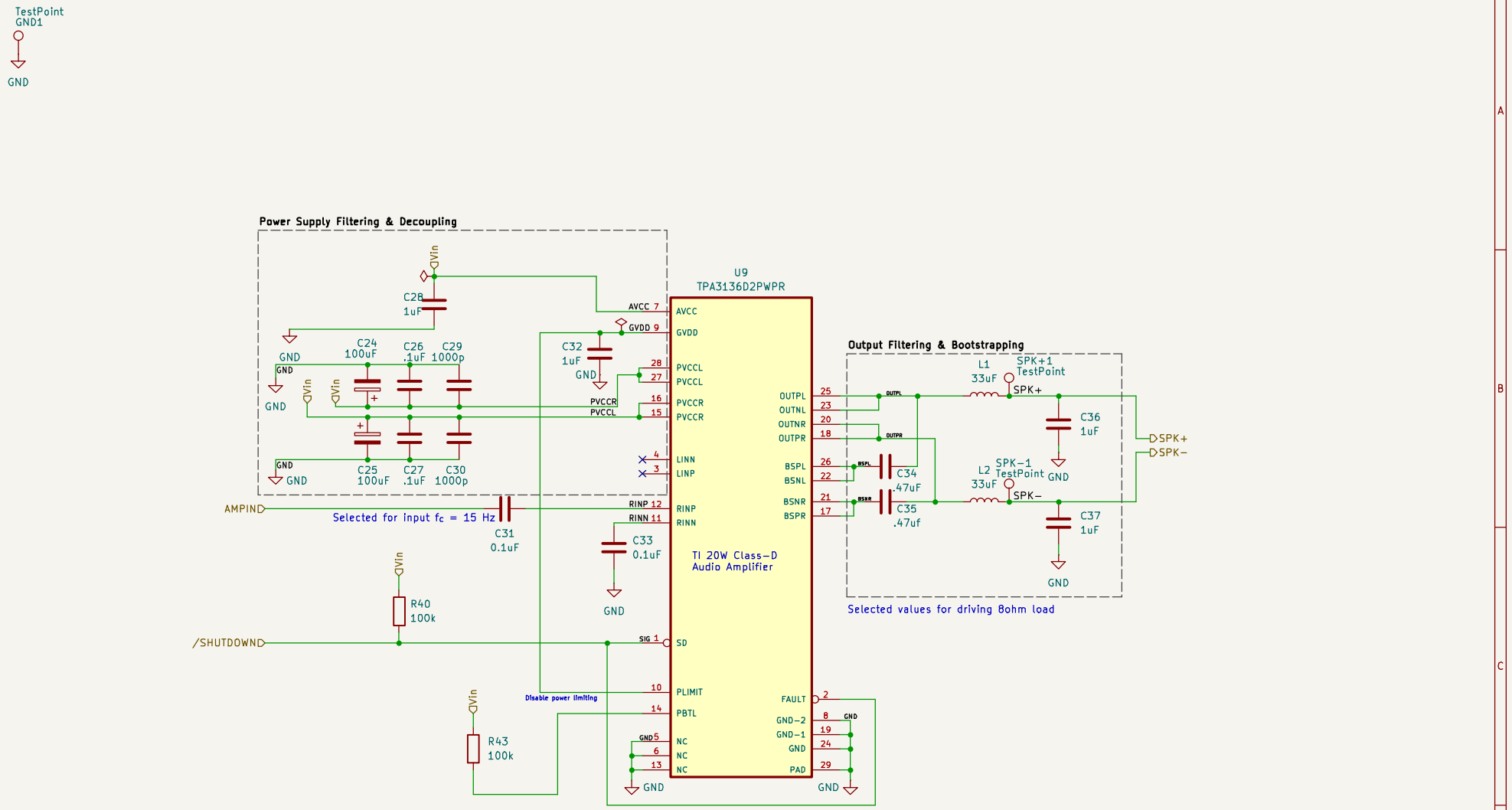


Design: Eric Sanman, Sierra Buckley, Chuong Vo, Chris Crider
Open Source Hardware
Portland State University

Sheet: /ESP32-S3-WROOM Dev Board/
File: ESP32 & OLED.kicad_sch

Title: ESP32 Microcontroller Module

Size: A4	Date: 2024-11-21	**Rev: 1.9**
KiCad E.D.A. 8.0.6		Id: 6/6

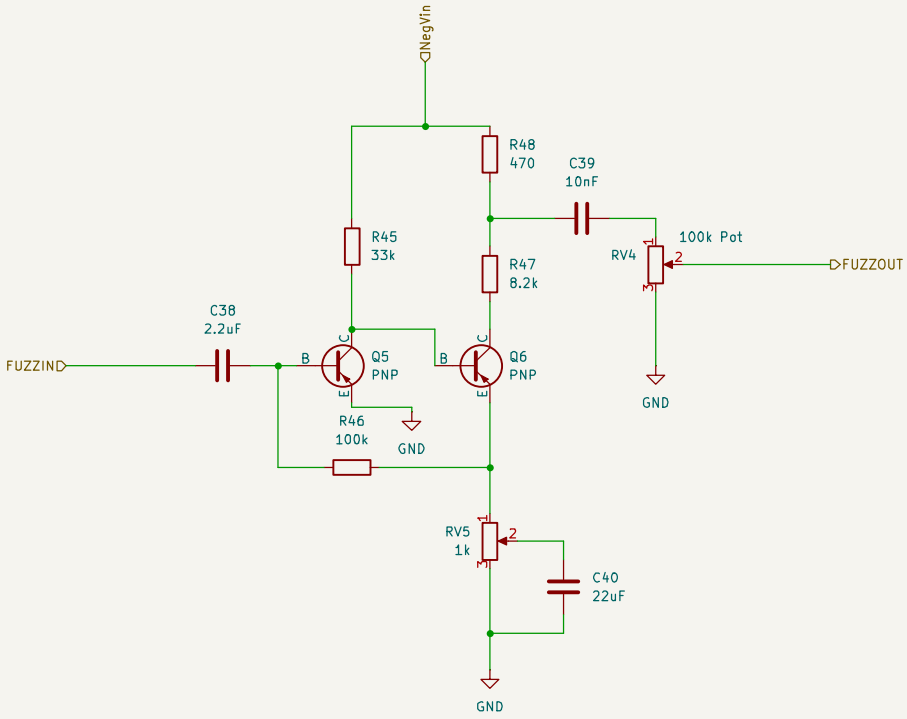


Design: Eric Sanman
Open Source Hardware
Portland State University

Sheet: /Class-D Amplification/
File: Amp.kicad_sch

Title: 20W Mono Class-D Audio Amplifier

Size: A4	Date: 2024-11-14	**Rev: r2.7**
KiCad E.D.A. 8.0.6		Id: 7/6

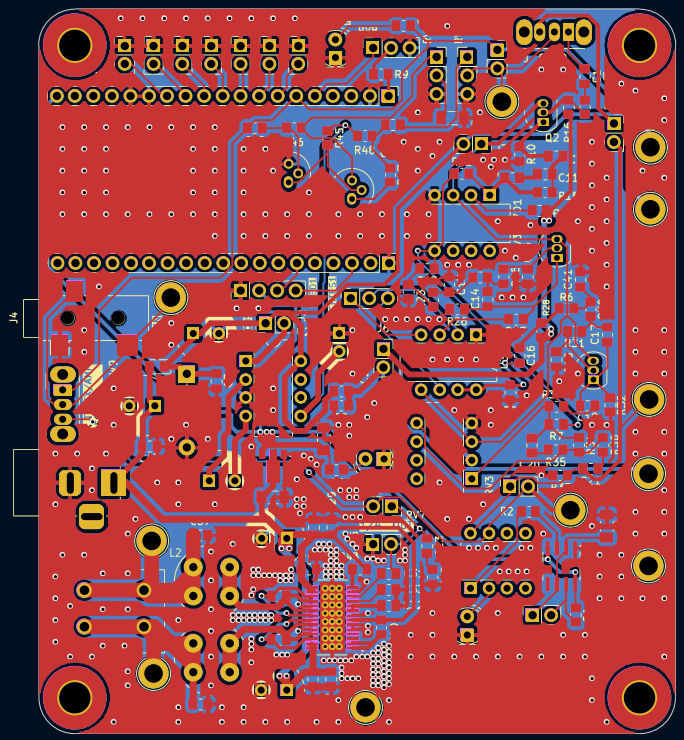


Design: Eric Sanman, Sierra Buckley, Chuong Vo, Chris Crider
Open Source Hardware
Portland State University

Sheet: /Fuzz Schematic/
File: Fuzz.kicad_sch

Title: Fuzz & Distortion Effect

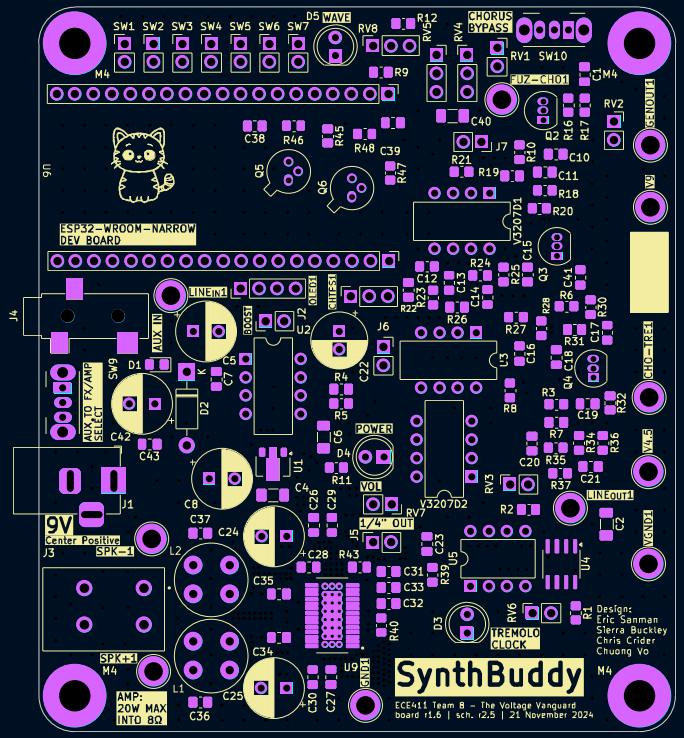
Size: A4	Date: 2024-11-14	**Rev: 1.7**
KiCad E.D.A. 8.0.6		Id: 8/6



Design: Eric Sanman, Sierra Buckley, Chuong Vo, Chris Crider
Portland State University
Sheet:
File: ECE 411 Project.kicad_pcb

Title: PedalSynth

Size: A4	Date: 2024-11-17	Rev: r1.6
KiCad E.D.A. 8.0.6		Id: 1/1



Design: Eric Sanman, Sierra Buckley, Chuong Vo, Chris Crider

Portland State University

Sheet:

File: ECE 411 Project.kicad_pcb

Title: PedalSynth

Size: A4	Date: 2024-11-17	Rev: r1.6
KiCad E.D.A. 8.0.6		Id: 1/1