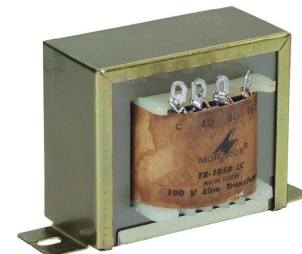
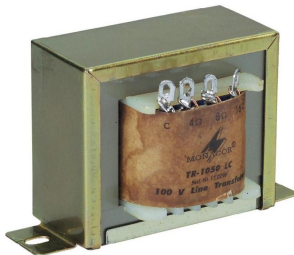
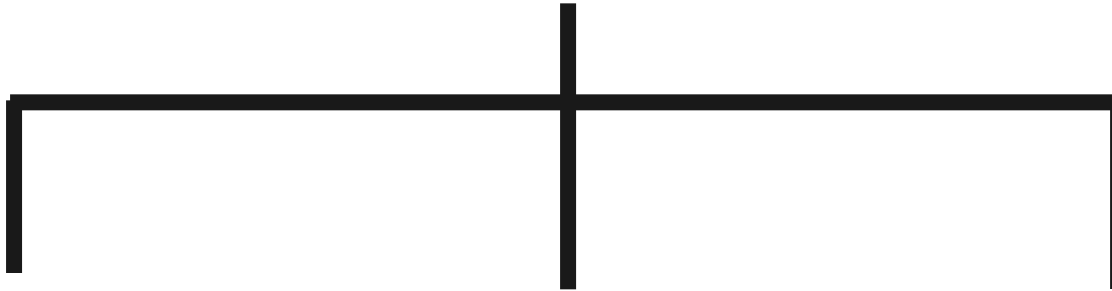
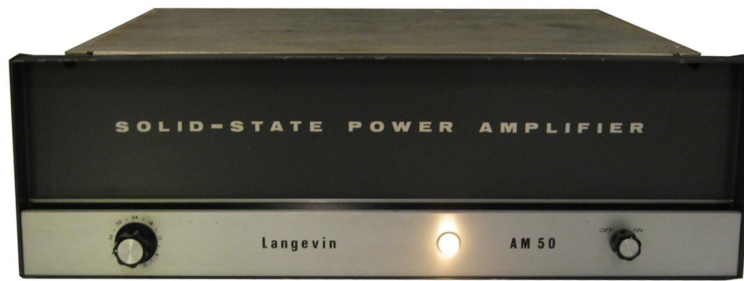
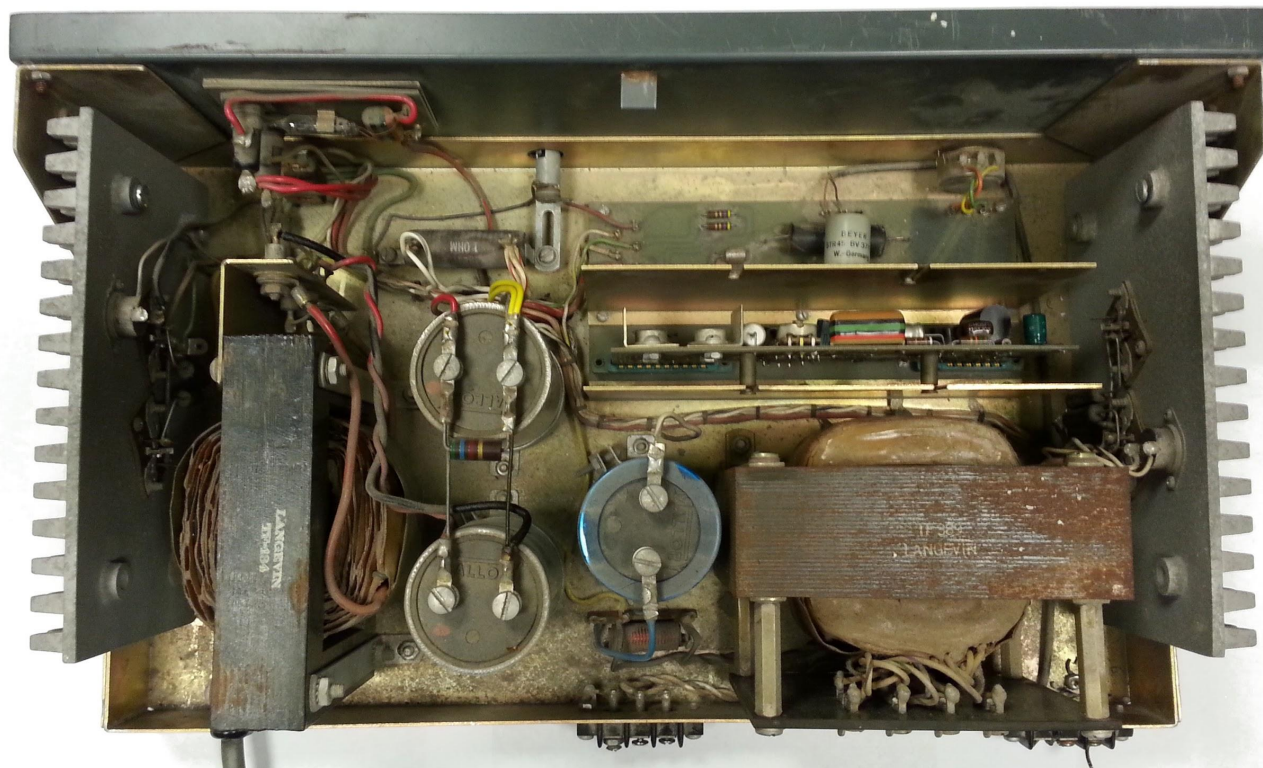
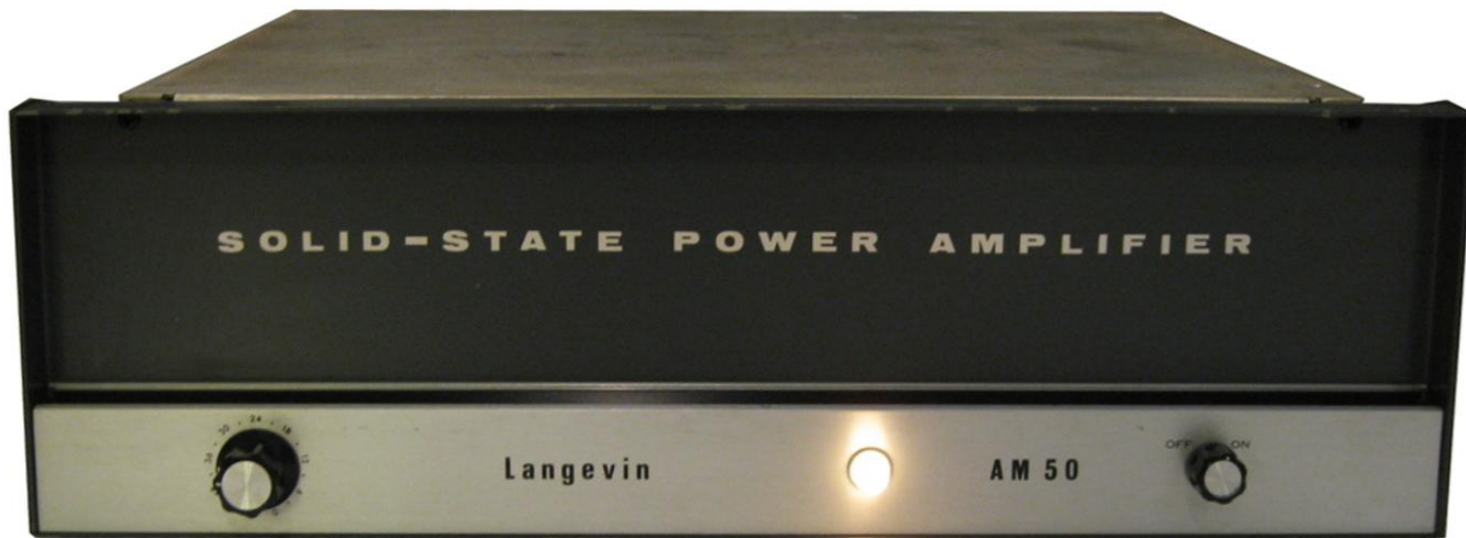


High Voltage Class G Audio Amplifier

Mark Spatz

6.101 Spring 2014

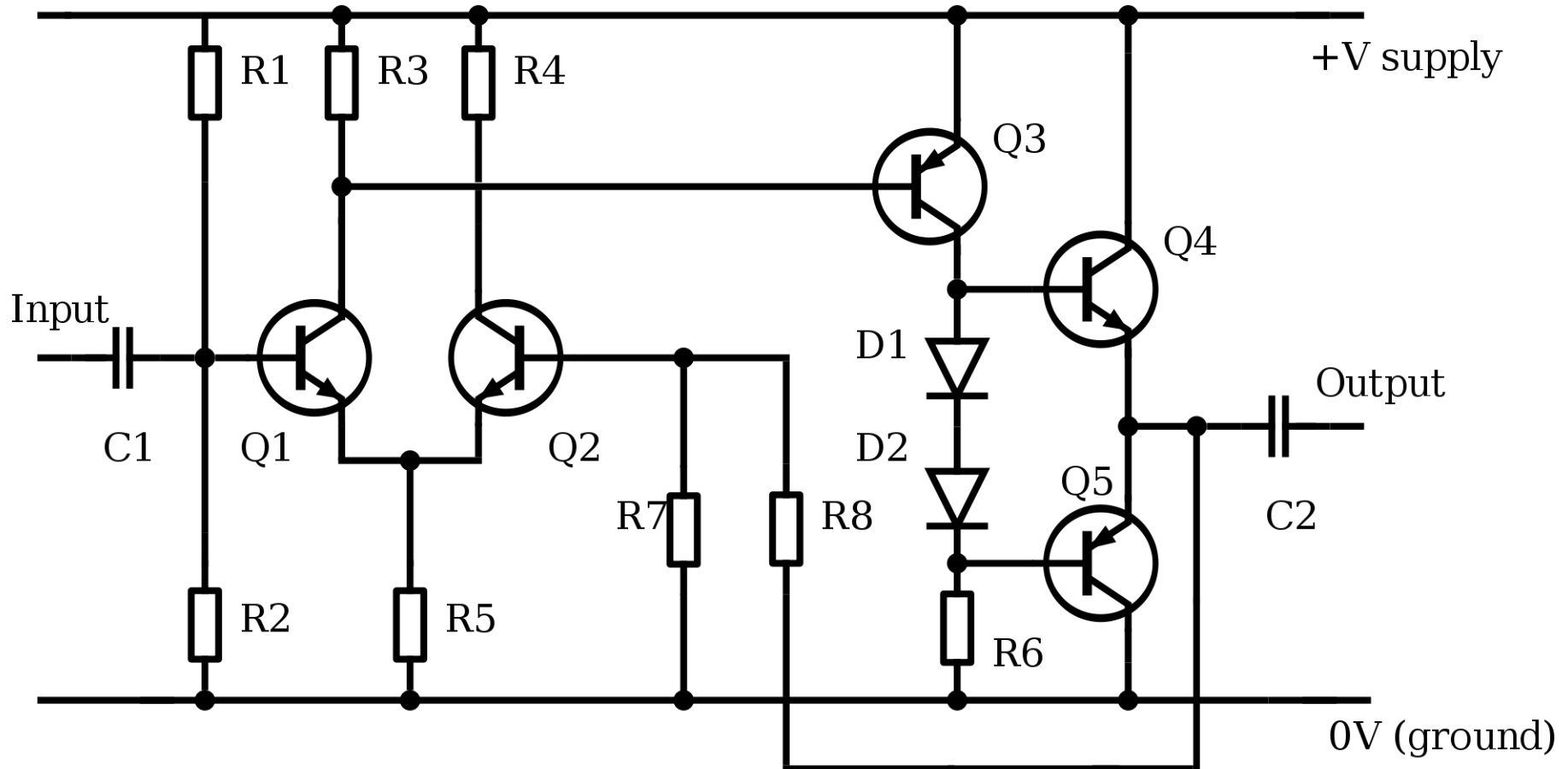




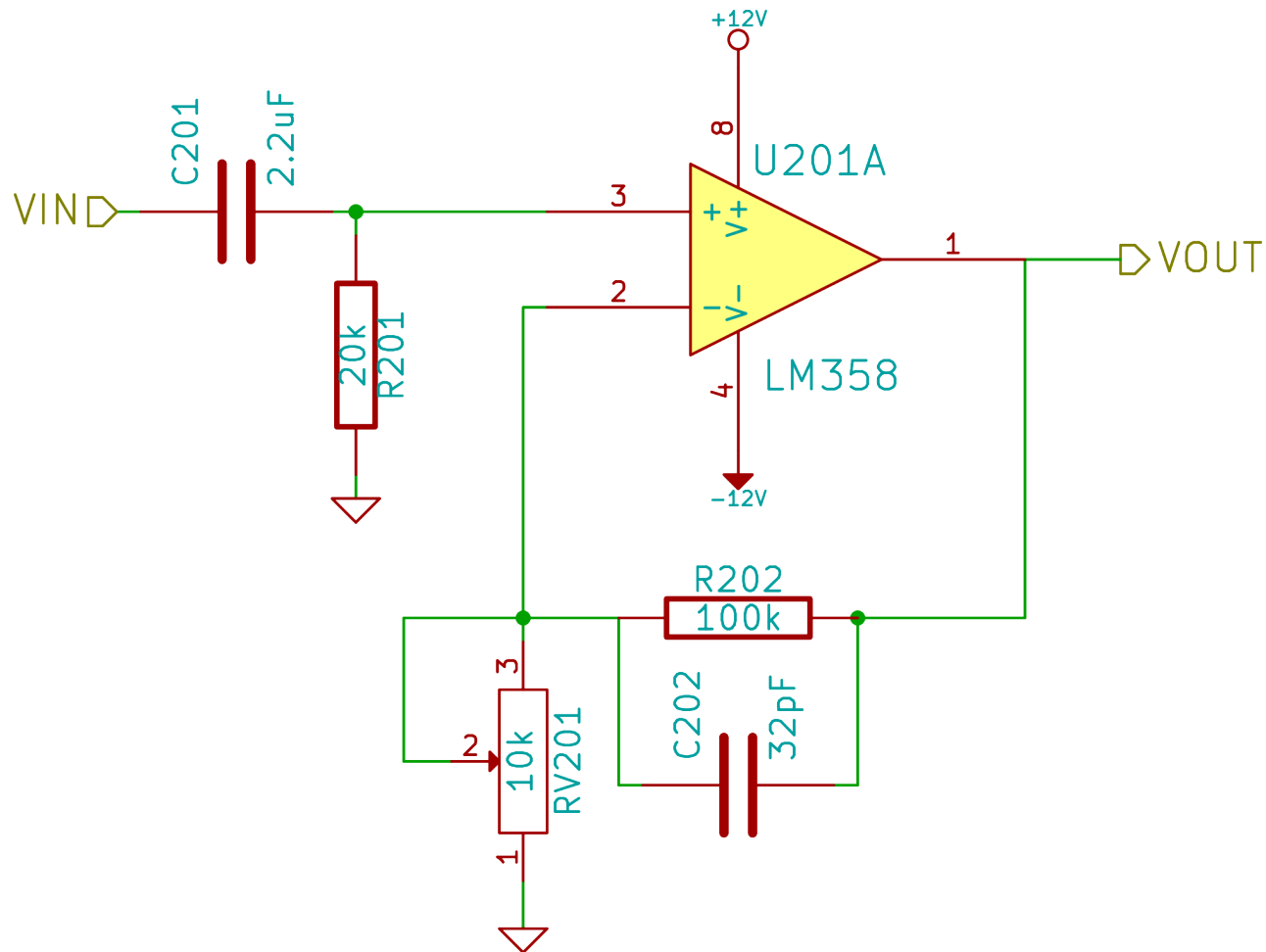
Design Goals

- $\geq 150\text{W}$ into 8 ohm load
- 100Vpp output swing
- Reasonable efficiency
- Output ruggedness (short circuit protection)
- Excellent thermal stability.

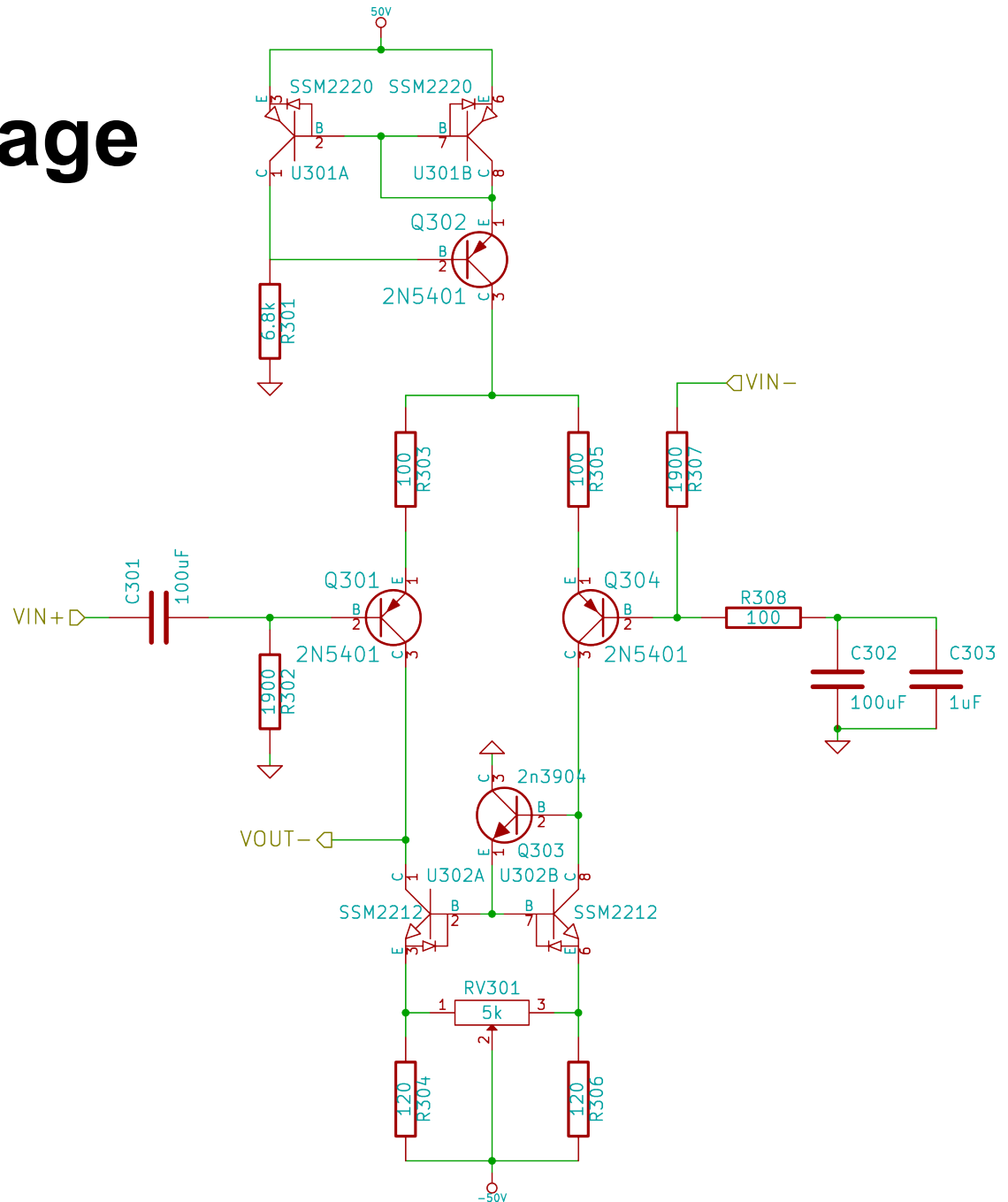
Basic Three Stage Amplifier



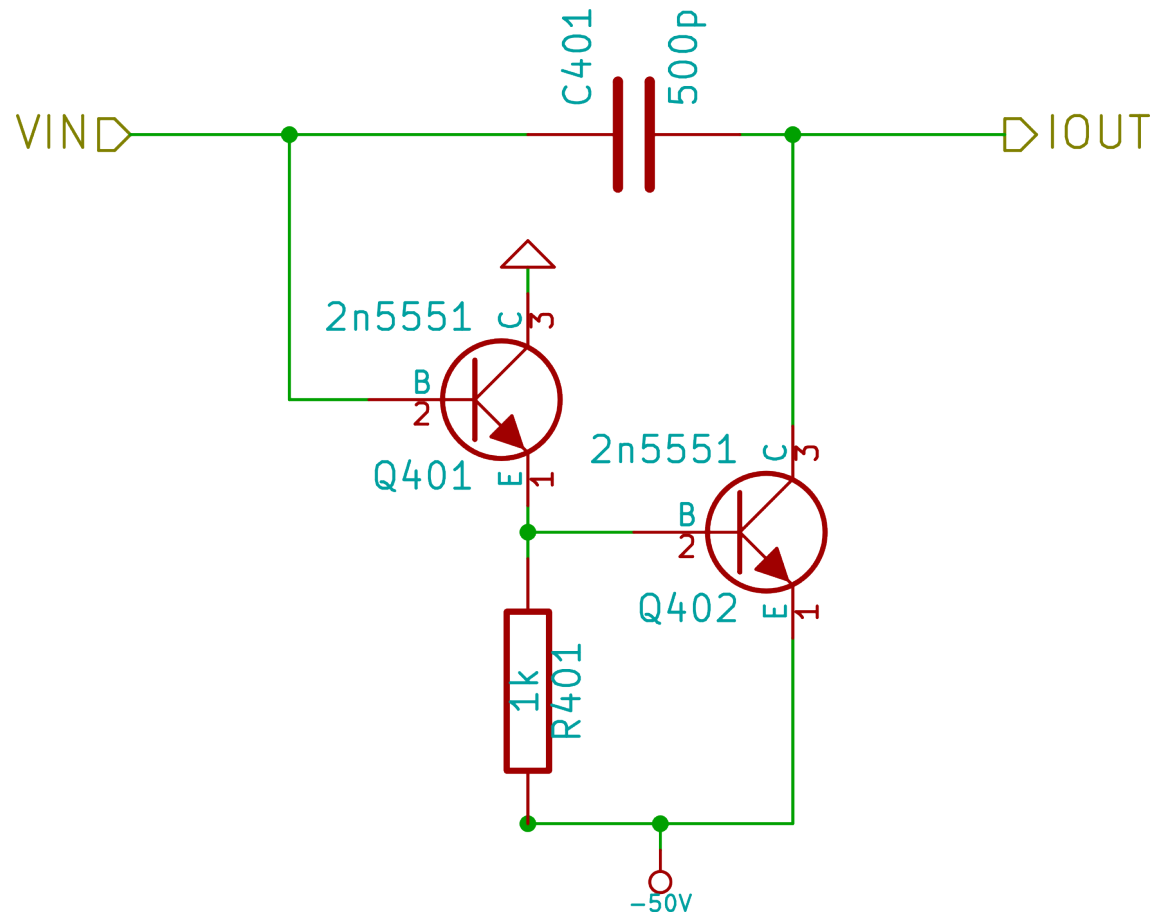
Preamplifier



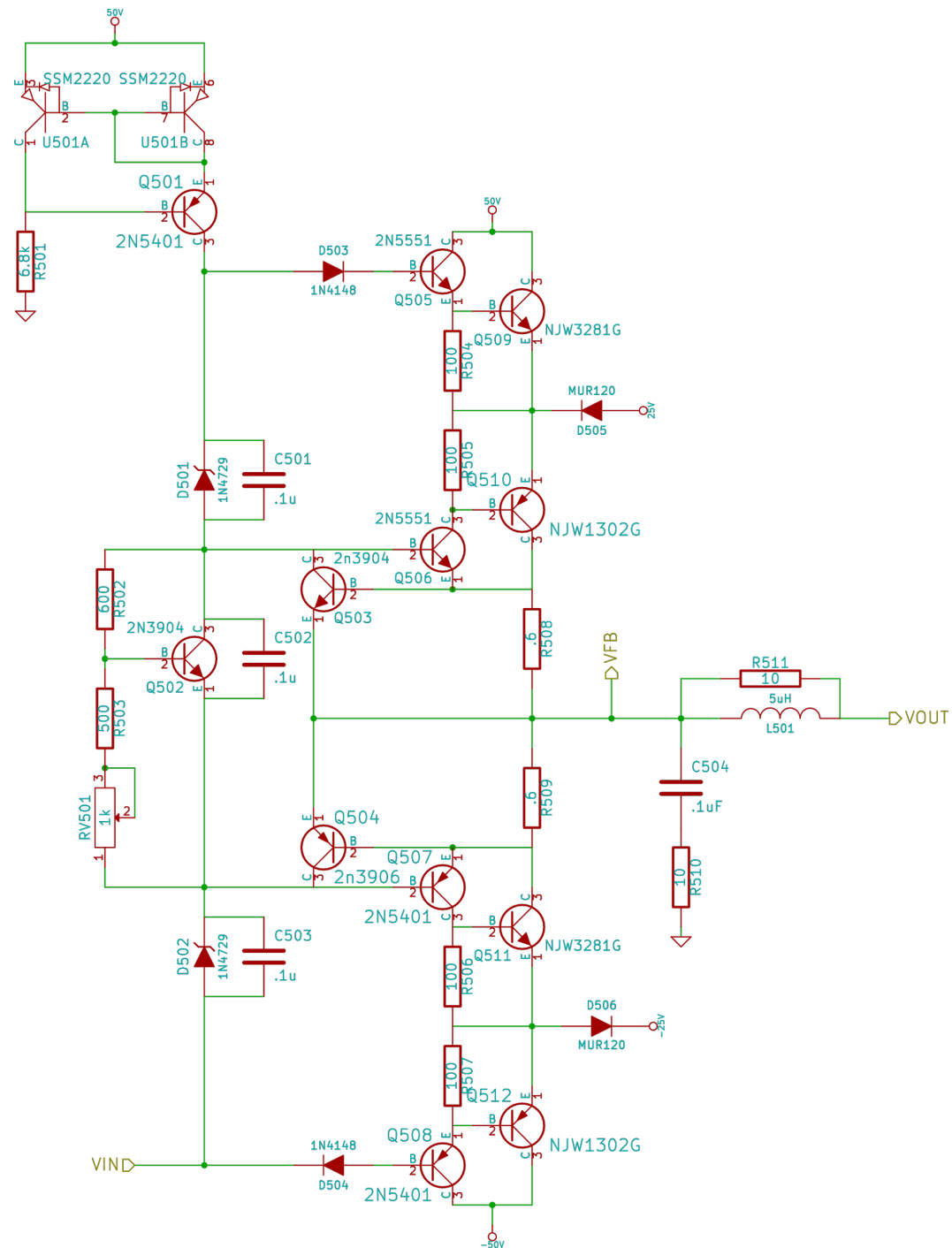
Differential Stage



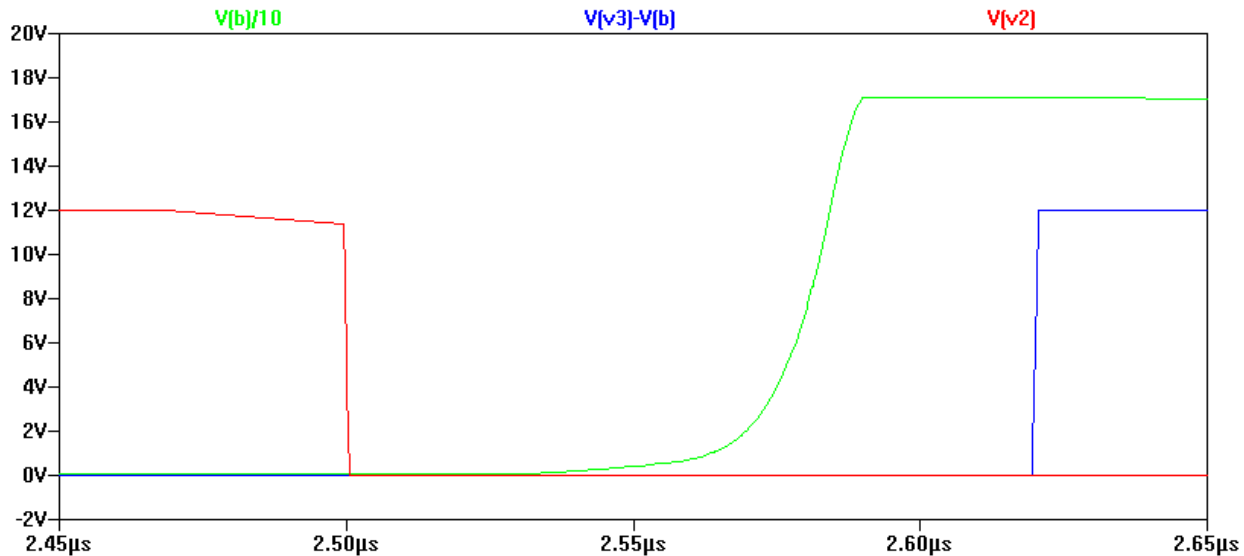
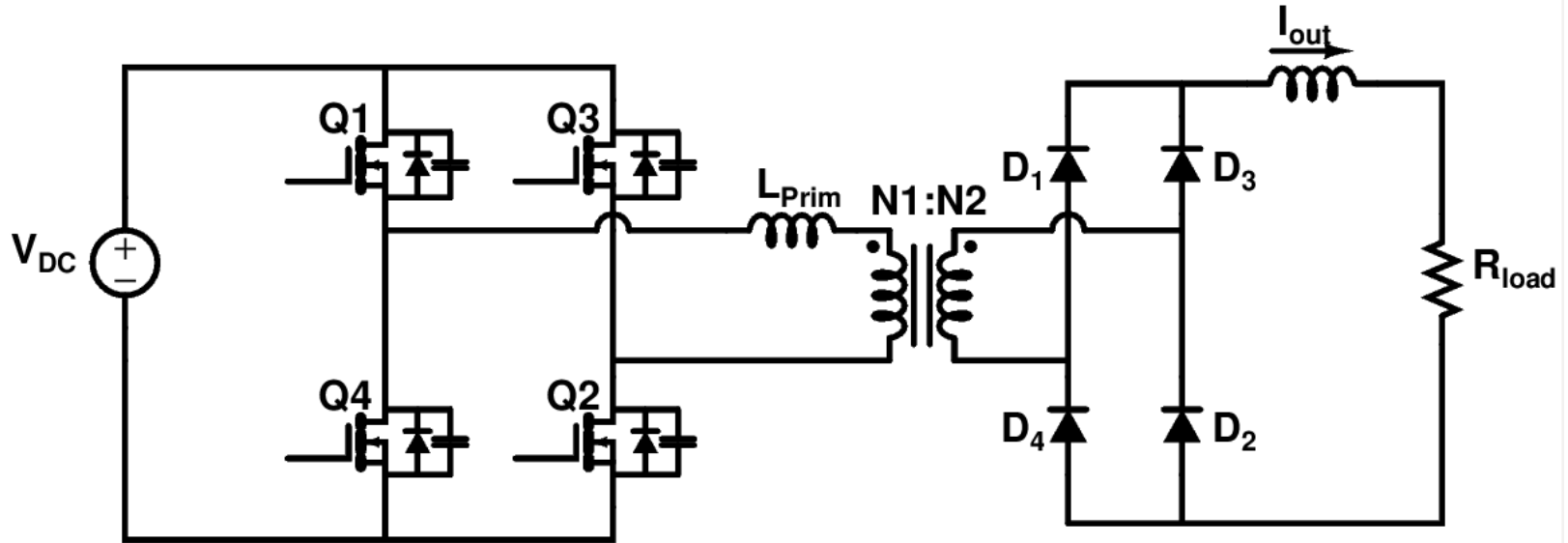
Gain Stage



Output Stage



Power Supply (6.332 Project)



Built and working by 5/8...

- Finalize a (flexible) PCB by Monday Morning (4/21)
- Order a couple barebones PCBs (cheap, 1 day turn)
- Begin power supply PCB design (using LM5046 Phase-Shifted Full-Bridge PWM Controller)
- Finish or give up on power board by 4/25
- Amp boards arrive by 4/25: Build, test, rework...
- If time and inclination allow, reorder full-spec PCBs and build a nice final product.