

For mosfet only operation!

Place R19

Omit C1, R3, R5, R20, VR2, VR4

Use IRF820b mosfets for Q1 & Q2

At higher power levels

Q2 will need a heatsink

Connect B+ to "C" terminal

For pentode operation!

Place C1, R3 and R20

Omit R19

Use IRF510a mosfets for Q1 & Q2

Connect B+ to plate of pentode

Selected resistor values! $R1 = E/I$ where

I is desired current,

E is 15 to 30 volts, set by R11

This allows for a 2 to 1
adjustment range in output current

$$R3 = \frac{(B+) - (V_{p1} + V_{r1} + 4 + V_{r14} + V_b + V_s)}{I_s}$$

B+ = Main power supply voltage

V_{p1} = Plate voltage on triodeV_{r1} = Voltage across R1 (15 to 30 volts)

4 = Approximate turn on voltage of Q1

V_{r14} = 9 volts (33uA * 27K)V_b = Bias requirement for tubeV_s = Screen voltageI_s = Screen currentScreen voltage and current needs are
are derived from pentode data sheets

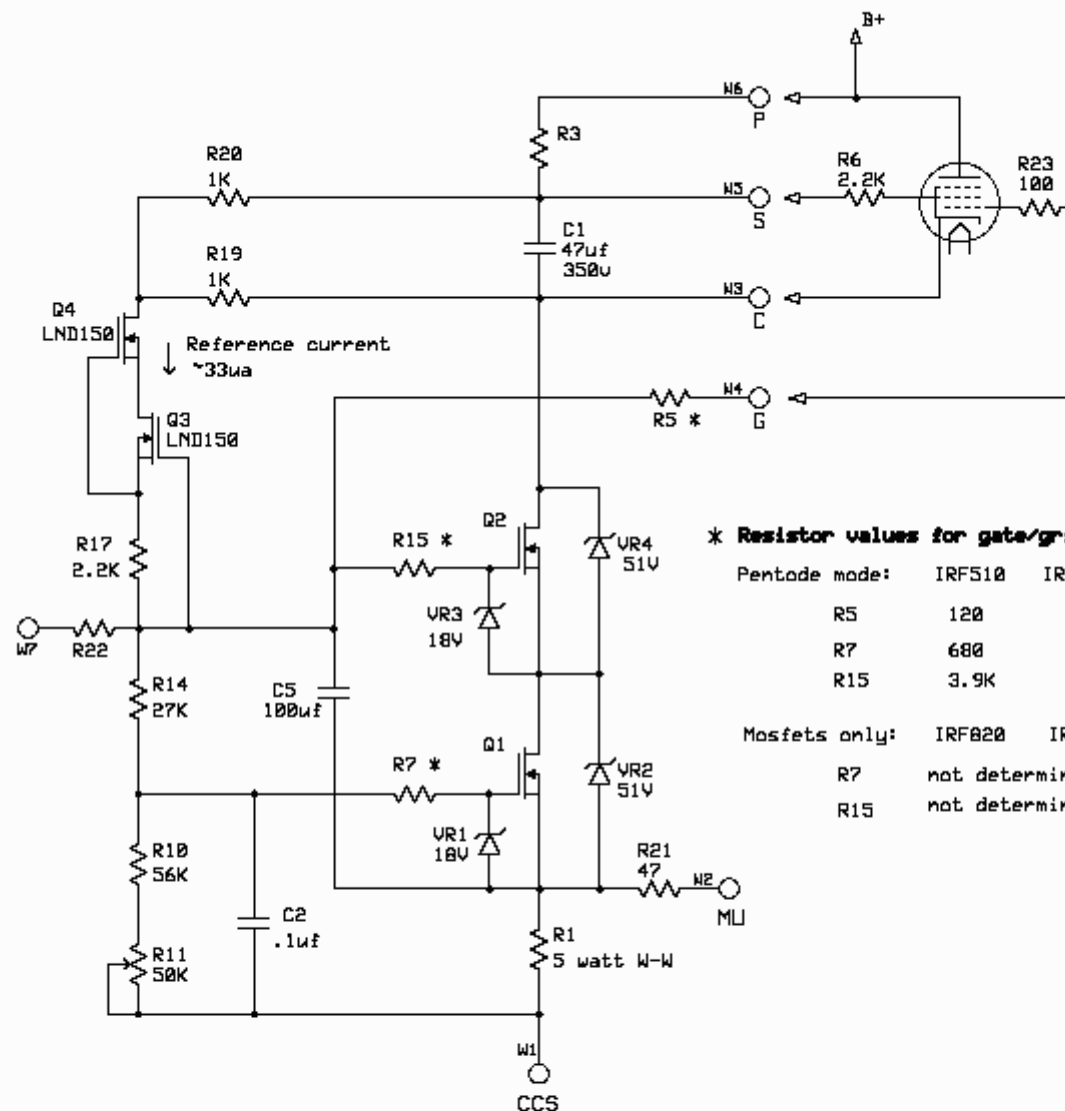
Verify value of R3 by measuring grid bias of pentode.

To increase grid bias decrease value of R3

Suggested bias voltage ranges

6AU6 -1 to -2 volts

6BD5/6BD4 -2 to -5 volts

*** Resistor values for gate/grid stoppers!**

Pentode mode: IRF510 IRF510A

R5 120 10

R7 680 10

R15 3.9K 4.7K

Mosfets only: IRF820 IRF820B

R7 not determined yet

R15 not determined yet