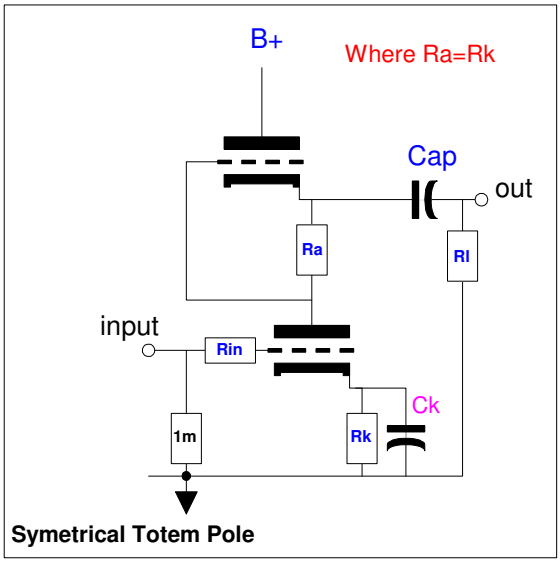
Tube CAD

Totem Pole Amplifier



The Symmetrical Totem Pole amplifier. No coupling cap for the top triode's grid is needed as the plate resistor equals the cathode resistor. This results in a gain roughly equal to one half the mu of the triode.

Tube

Tube = 6SL7
Number = 1
mu = 70
gm = 1.6 ma/v
rp = 44000 ohm
Imax = 5 ma
Vmax = 250 v
Wmax = 1 w
Cgp = 2.9 pf

Circuit Setup

Rk = 820 ohm
Rk bypassed
Rin = 25 k
RL = 220 k
Ra = 820 ohm
Cap = 1µf
I = 2ma
V B+ = 400v

AC Results

Gain = 45.74
Phase = inverts
Z input = 60 k
F -3dB low = 0.68 hz
Gain dB = 33.2 dB
PSRR = -11.4 dB
Z output = 12.7 k
F -3dB high = 48 khz

DC Results

V tube = 198 v
Vbias = -1.62 v
Vth = 1.3 v
Plate Dis. = 397 mw
Ra Dis. = 3 mw
VRa = 1.64 v
Vg2 = 200 v
Vmax out = -74/+74.2 v
Total Dis. = 800 mw
W Rk = 3 mw

Calculated Part Values

Rk = 806 ohm
Cap Rk = 22 µf