



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 μ of the triode.

Tube

Tube = 12AX7
 Number = 1
 μ = 100
 g_m = 1,6 ma/v
 r_p = 62500 ohm
 I_{max} = 2,5 ma
 V_{max} = 300 v
 W_{max} = 1 w
 C_{gp} = 1,7 pf

Circuit Setup

R_k = 100 ohm
 R_k unbypassed
 R_{in} = 300 ohm
 R_L = 1 m
 R_a = 100 ohm
 Cap = 1 μ f
 I = 2,0ma
 V_{B+} = 150v

AC Results

Gain = 48,42
 Phase = inverts
 Z_{input} = 96,7 k
 $F_{-3dB\ low}$ = 0,15 hz

Gain dB = 33,7 dB
 PSRR = -6,32 dB
 Z_{output} = 30,3 k
 $F_{-3dB\ high}$ = > 1 mhz

DC Results

V_{tube} = 74,8 v
 V_{bias} = -0,2 v
 V_{th} = 1,47 v
 Plate Dis. = 150 mw
 R_a Dis. = mw

V_{Ra} = 0,2 v
 V_{g2} = 75 v
 $V_{max\ out}$ = -40/+71 v
 Total Dis. = 300 mw
 W_{Rk} = mw

Calculated Part Values

R_k = 102 ohm
 Cap_{Rk} = 92 μ f