



The Self Biased Totem Pole amplifier. Almost identical in AC terms to the textbook version, this circuit maintains its own bias voltage for the top triode.

Tube

Tube = 6SN7
 Number = 1
 mu = 20
 gm = 2.6 ma/v
 rp = 7700 ohm
 I_{max} = 20 ma
 V_{max} = 450 v
 W_{max} = 3.75 w
 C_{gp} = 4 pf

Circuit Setup

R_k = 1 k
 R_k bypassed
 R_{in} = 1 ohm
 R_L = 1 m
 R_a = 22 k
 Cap = 1μf
 I = 4ma
 V B+ = 315v

AC Results

Gain = 18.75	Gain dB = 25.5 dB
Phase = inverts	PSRR = -24.4 dB
Z input = 106 k	Z output = 479 ohm
F -3dB low = 0.16 hz	F -3dB high = > 1 mhz

DC Results

V tube = 110 v	V _{Ra} = 88 v
V _{bias} = -2.96 v	V _{g2} = 200 v
V _{th} = 7.59 v	V _{max out} = -55/+142 v
Plate Dis. = 438 mw	Total Dis. = 1.26 w
R _a Dis. = 352 mw	W R _k = 16 mw

Calculated Part Values

R _k = 732 ohm	Cap R _k = 29 μf
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