



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 = 12AX7
- Number = 1
- mu = 100
- gm = 1,6 ma/v
- rp = 62500 ohm
- I<sub>max</sub> = 2,5 ma
- V<sub>max</sub> = 300 v
- W<sub>max</sub> = 1 w
- C<sub>gp</sub> = 1,7 pf

### Circuit Setup

- R<sub>k</sub> = 350 ohm
- R<sub>k</sub> unbypassed
- R<sub>in</sub> = 300 ohm
- RL = 1 m
- R<sub>a</sub> = 350 ohm
- Cap = 1µf
- I = 2,5ma
- V B+ = 300v

### AC Results

- Gain = 48,31
- Phase = inverts
- Z<sub>input</sub> = 96,9 k
- F -3dB low = 0,15 hz
- Gain dB = 33,7 dB
- PSRR = -6,4 dB
- Z<sub>output</sub> = 30,4 k
- F -3dB high = > 1 mhz

### DC Results

- V<sub>tube</sub> = 149 v
- V<sub>bias</sub> = -0,86 v
- V<sub>th</sub> = 2,47 v
- Plate Dis. = 373 mw
- R<sub>a</sub> Dis. = 2 mw
- V<sub>Ra</sub> = 0,88 v
- V<sub>g2</sub> = 150 v
- V<sub>max out</sub> = -80/+119 v
- Total Dis. = 750 mw
- W<sub>Rk</sub> = 2 mw

### Calculated Part Values

- R<sub>k</sub> = 348 ohm
- Cap R<sub>k</sub> = 35 µf