



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  
 $\mu = 100$   
 $g_m = 1.6 \text{ ma/v}$   
 $r_p = 62500 \text{ ohm}$   
 $I_{max} = 2.5 \text{ ma}$   
 $V_{max} = 300 \text{ v}$   
 $W_{max} = 1 \text{ w}$   
 $C_{gp} = 1.7 \text{ pf}$

## Circuit Setup

$R_k = 200 \text{ ohm}$   
 $R_k$  bypassed  
 $R_{in} = 10 \text{ k}$   
 $R_L = 37.4 \text{ k}$   
 $R_a = 200 \text{ ohm}$   
 $Cap = 1 \mu\text{f}$   
 $I = 1.5 \text{ ma}$   
 $V_{B+} = 150 \text{ v}$

## AC Results

Gain = 33	Gain dB = 30.4 dB
Phase = inverts	PSRR = -13.1 dB
Z input = 142 k	Z output = 15.7 k
F -3dB low = 3 hz	F -3dB high = 284 khz

## DC Results

$V_{tube} = 74.7 \text{ v}$	$V_{Ra} = 0.3 \text{ v}$
$V_{bias} = -0.3 \text{ v}$	$V_{g2} = 75 \text{ v}$
$V_{th} = 0.95 \text{ v}$	$V_{max \text{ out}} = -10/+31.3 \text{ v}$
Plate Dis. = 112 mw	Total Dis. = 225 mw
$R_a \text{ Dis.} = \text{mw}$	$W_{Rk} = \text{mw}$

## Calculated Part Values

$R_k = 200 \text{ ohm}$	Cap $R_k = 53 \mu\text{f}$
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