



Simulation Setup

Output Tube = 6HJ5 Raytheon	Number of Pairs = 1
Load Resistance = 8 ohms	Bias voltage (Vg) = -52.1V
B+ (volts) = 300V	Input Signal Vsig = 50V
Output Transformer = Hinchley	Trans. Rload P-to-P = 3.5k ohms
Trans. Primary RDC = 200 ohms	Trans. Secondary RDC = m ohms
Trans. Trans. Eff. (%) = 90	

Tube Data

Triode = 6HJ5 Raytheon	Triodes per Tube = 1
Amplification factor (mu) = 4.2	Plate resistance (rp) = 420 ohms
Transconductance (gm) = 10mA/V	Plate voltage (max) = 350V
Plate dissipation (max) = 24W	Cathode current (max) = 1000
Heater voltage = 6.3V	Heater current = 2.5A

Results Per Tube at Idle

Plate dissipation (Wp) = 23.7W	Dissipation Limit % = 98.6%
Idle current (Iq) = 81mA	Idle current / (Ik Limit) = 8.1%

Total for Output Stage at Idle

Plate dissipation (Wp) = 47.3W	Heater dissipation = 15.8W
Idle current (Iq) = 162mA	W (heater + plate) = 63.1W

IV Dynamics per Triode

Cathode-to-grid voltage (pk) = -2.1V	Input signal voltage (pk) = 50V
Plate voltage (pk) = 531.7V	Plate voltage (min) = 52.07V
Cathode current (pk) = 222mA	Cathode current (min) = .61mA
Cathode current (avg) = 96.1mA	Plate dissipation (avg) = 14.7W

Output Into Load

Power into load = 19.6W	Watts per triode = 7.91W
Voltage gain = 4.8	Watts Class-A limit = 6.82W
Voltage (pk) = 16.69V	Cathode current (pk) = 1.69A
Output impedance (Zo) = 1.75	Damping factor (DF) = 4.56
3rd harmonic distortion = 0.182%	5th harmonic distortion = 0.0407%

**Output Into Load (Continued)**

Plate efficiency = 39.9%

Total efficiency = 30.2%

**Transformer**

Winding ratio = 10.5 : 1

Impedance ratio = 109 : 1