

RCA-801

R-F and A-F Power Amplifier, Oscillator, Class B Modulator

RCA-801 is a three-electrode transmitting tube of the thoriated-tungsten filament type well suited for use as a radio-frequency amplifier and oscillator at high radio frequencies. It may also be used as an audio-frequency amplifier and modulator. The internal structure of this tube, together with its ceramic base, provides for operation at full rating at frequencies as high as 60 megacycles.

CHARACTERISTICS

Filament Volts (a-c or d-c).....	7.5	Grid-Plate Capacitance	6 μf
Filament Amperes	1.25	Grid-Filament Capacitance	4.5 μf
Amplification Factor	8	Plate-Filament Capacitance	1.5 μf

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

As A-F Power Amplifier and Modulator—Class A

D-C PLATE VOLTAGE	600 max.	Volts
PLATE DISSIPATION	20 max.	Watts

TYPICAL OPERATION AND CHARACTERISTICS:

D-C Plate Voltage	425	500	600	Volts
D-C Grid Voltage [†]	-40	-45	-55	Volts
Peak A-F Grid Voltage	35	40	50	Volts
D-C Plate Current	18	24	30	Milliamperes
Plate Resistance	5000	4600	4300	Ohms
Transconductance	1600	1725	1840	Micromhos
Load Resistance	10200	8000	7800	Ohms
Cathode-Bias Resistor	2225	1875	1835	Ohms
Undistorted Power Output	1.6	2.3	3.8	Watts

As A-F Power Amplifier and Modulator—Class B

D-C PLATE VOLTAGE	600 max.	Volts
MAX.-SIGNAL D-C PLATE CURRENT*	70 max.	Milliamperes
MAX.-SIGNAL PLATE INPUT*	42 max.	Watts
PLATE DISSIPATION*	20 max.	Watts

TYPICAL OPERATION:

Unless otherwise specified, values are for 2 tubes

D-C Plate Voltage	400	500	600	Volts
D-C Grid Voltage [†]	-50	-60	-75	Volts
Peak A-F Grid-to-Grid Voltage	270	290	320	Volts
Zero-Sig. D-C Plate Current	8	8	8	Milliamperes
Max.-Sig. D-C Plate Current	130	130	130	Milliamperes
Load Resistance (Per tube)	1500	2000	2500	Ohms
Effective Load Res. (Plate-to-plate)	6000	8000	10000	Ohms
Max.-Sig. Driving Power (Approx.)	3	3	3	Watts
Max.-Sig. Power Output (Approx.)	27	36	45	Watts

[†] μf : see next page.

INSTALLATION AND APPLICATION

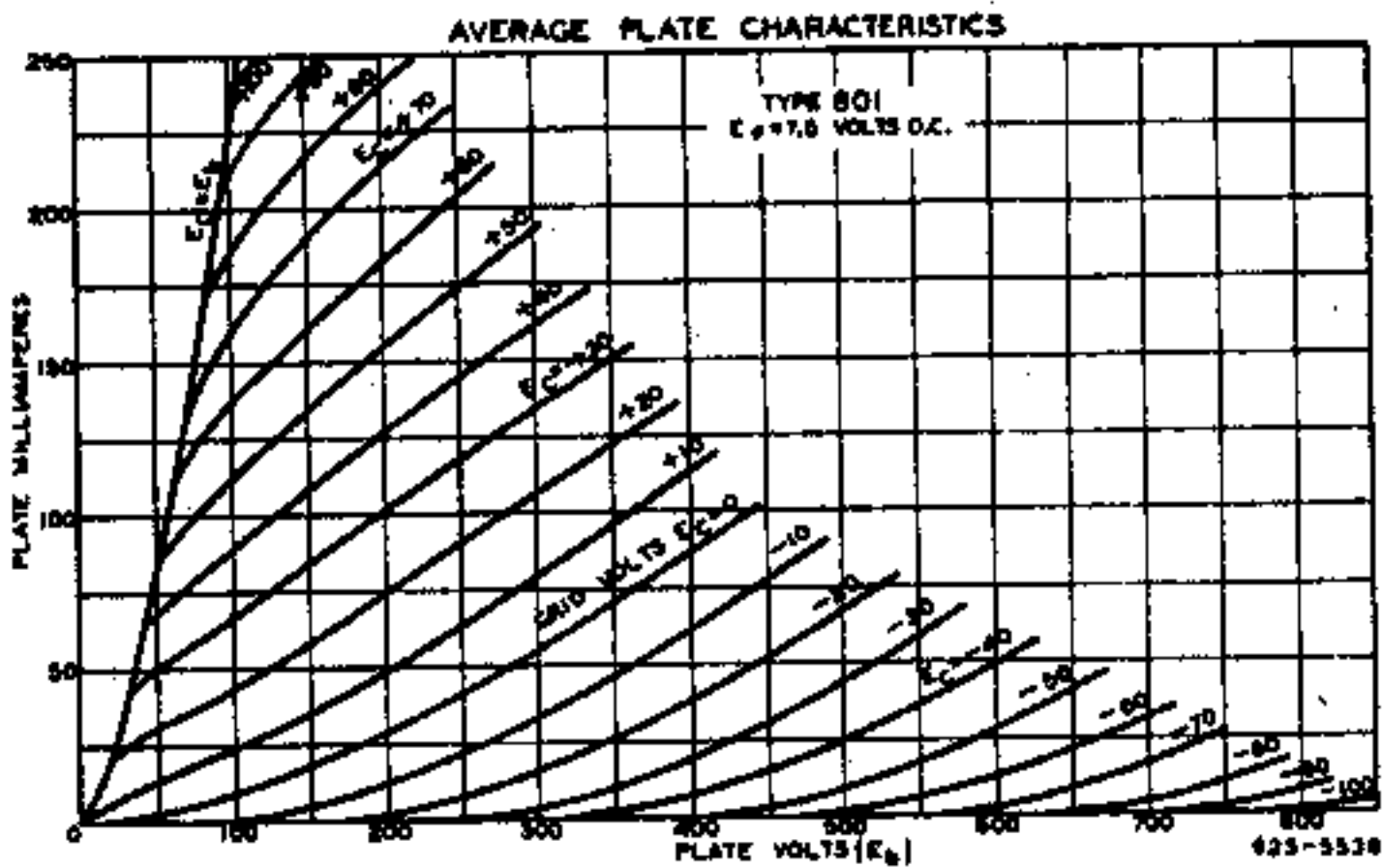
The base pins of the RCA-801 fit the standard, four-contact socket, such as the RCA type UR-542A. The socket should be installed to hold the tube in a vertical position with the base down. If it is necessary to place the tube in a horizontal position, the socket should be mounted with the filament-pin openings one vertically above the other so that the plate will be in a vertical plane (on edge).

The plate of the 801 shows no color at the maximum plate-dissipation rating for each class of service.

When the 801 is used as a class A amplifier with resistance- or impedance-coupling in the input circuit, the d-c resistance in the grid circuit should not be made too high. A resistance value of 0.5 megohm for one 801 is the recommended maximum when cathode bias is used. Without cathode bias, the grid resistance should not exceed 100,000 ohms.

For high-frequency operation above 60 megacycles, see page 144.

For additional information, see chapters on INSTALLATION and APPLICATION.



Top View of Socket Connections

