

RCA Transmitting Tubes

with base down, or in horizontal position with pins 1 and 3 in vertical plane. OUTLINE 51, *Outlines* Section. Plate shows no color when tube is operated at maximum CCS ratings.

FILAMENT VOLTAGE (AC/DC).....	10	volts
FILAMENT CURRENT.....	3.25	amperes
DIRECT INTERELECTRODE CAPACITANCES:		
Grid to plate.....	6.0	μf
Grid to filament.....	7.6	μf
Plate to filament.....	9.0	μf

AF POWER AMPLIFIER AND MODULATOR—Class B

Maximum CCS Ratings:

DC PLATE VOLTAGE.....	1500 max	volts
MAXIMUM-SIGNAL DC PLATE CURRENT [■]	210 max	ma
MAXIMUM-SIGNAL PLATE INPUT [■]	315 max	watts
PLATE DISSIPATION [■]	125 max	watts

Typical Operation (Values are for 2 tubes):

DC Plate Voltage.....	1250	1500	volts
DC Grid Voltage.....	0	-16	volts
Peak AF Grid-to-Grid Voltage.....	235	280	volts
Zero-Signal DC Plate Current.....	148	84	ma
Maximum-Signal DC Plate Current.....	400	400	ma
Effective Load Resistance (Plate to plate).....	6700	8200	ohms
Maximum-Signal Driving Power (Approx.).....	6	7	watts
Maximum-Signal Power Output (Approx.).....	300††	370†	watts

■ Averaged over any audio-frequency cycle of sine-wave form.

†† With 4 per cent harmonic distortion.

† With 3 per cent harmonic distortion.

RF POWER AMPLIFIER AND OSCILLATOR—Class C Telegraphy#

and

RF POWER AMPLIFIER—Class C FM Telephony

Maximum CCS Ratings:

DC PLATE VOLTAGE.....	1500 max	volts
DC GRID VOLTAGE.....	-500 max	volts
DC PLATE CURRENT.....	210 max	ma
DC GRID CURRENT.....	70 max	ma
PLATE INPUT.....	315 max	watts
PLATE DISSIPATION.....	125 max	watts

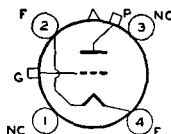
Typical Operation:

DC Plate Voltage.....	1000	1250	1500	volts
DC Grid Voltage.....	-95	-100	-105	volts
Peak RF Grid Voltage.....	225	230	235	volts
DC Plate Current.....	200	200	200	ma
DC Grid Current (Approx.).....	40	40	40	ma
Driving Power (Approx.).....	8.5	8.5	8.5	watts
Power Output (Approx.).....	130	170	215	watts

Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

POWER TRIODE

Thoriated-tungsten-filament type used as af power amplifier and modulator and as rf power amplifier and oscillator. May be used with full input up to 30 Mc and with reduced input up to 100 Mc. Requires Jumbo four-contact socket and may be mounted in vertical position only, base down. OUTLINE 59, *Outlines* Section. Filament volts (ac/dc), 5; amperes, 9.5. Direct interelectrode capacitances: grid to plate, 4 μf ;

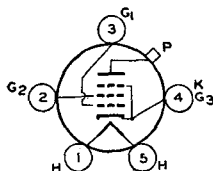


806

grid to filament, 5.6 μf ; plate to filament, 0.4 μf . Maximum CCS ratings as AF POWER AMPLIFIER AND MODULATOR: dc plate volts, 3000 max (ICAS, 3300 max); maximum-signal dc plate milliamperes, 200 max (ICAS, 250 max); maximum-signal plate input, 500 max watts (ICAS, 825 max watts); plate dissipation, 150 max watts (ICAS, 225 max watts). Maximum CCS ratings as RF POWER AMPLIFIER AND OSCILLATOR: dc plate volts, 3000 max (ICAS, 3300 max); dc grid volts, -1000

max; dc plate milliamperes, 200 *max* (ICAS, 305 *max*); dc grid milliamperes, 50 *max*; plate input, 600 *max* watts (ICAS, 1000 *max* watts); plate dissipation, 150 *max* watts (ICAS, 225 *max* watts). Plate shows cherry-red color when tube is operated at maximum CCS ratings, and orange-red color at maximum ICAS ratings. The 806 is used principally for renewal purposes.

BEAM POWER TUBE



807

Heater-cathode type used as af power amplifier and modulator and as rf power amplifier and oscillator. May be used with full input up to 60 Mc. For operation at 80 Mc, plate voltage

and plate input should be reduced to 80 per cent of maximum ratings; at 125 Mc, to 55 per cent. Class C Telephony maximum plate dissipation, CCS 25 watts, ICAS 30 watts. Requires Small five-contact socket and may be mounted in any position. OUTLINE 31, *Outlines* Section, except has no bayonet pin. Plate shows no color when tube is operated at maximum CCS or ICAS ratings.

HEATER VOLTAGE (AC/DC).....	6.3 ± 0.6	volts
HEATER CURRENT.....	0.9	ampere
TRANSCONDUCTANCE (Approx.)*.....	6000	μmhos
MU-FACTOR, Grid No.2 to Grid No.1**.....	8	
DIRECT INTERELECTRODE CAPACITANCES:		
Grid No.1 to plate (With external shielding).....	0.2 <i>max</i>	μf
Grid No.1 to cathode, grid No.3, grid No.2, and heater.....	12	μf
Plate to cathode, grid No.3, grid No.2, and heater.....	7	μf

* Plate and grid-No.2 volts, 250; grid-No.1 volts, -14.

** Plate and grid-No.2 volts, 250; grid-No.1 volts, -20.

AF POWER AMPLIFIER AND MODULATOR—Class AB₂

Maximum Ratings:	CCS	ICAS	
DC PLATE VOLTAGE.....	600 <i>max</i>	750 <i>max</i>	volts
DC GRID-NO.2 (SCREEN-GRID) VOLTAGE.....	300 <i>max</i>	300 <i>max</i>	volts
MAXIMUM-SIGNAL DC PLATE CURRENT [‡]	120 <i>max</i>	120 <i>max</i>	ma
MAXIMUM-SIGNAL PLATE INPUT [‡]	60 <i>max</i>	90 <i>max</i>	watts
MAXIMUM-SIGNAL GRID-NO.2 INPUT [‡]	3.5 <i>max</i>	3.5 <i>max</i>	watts
PLATE DISSIPATION [‡]	25 <i>max</i>	30 <i>max</i>	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.....	135 <i>max</i>	135 <i>max</i>	volts
Heater positive with respect to cathode.....	135 <i>max</i>	135 <i>max</i>	volts

Typical Operation (Values are for 2 tubes):

DC Plate Voltage.....	400	500	600	750	volts
DC Grid-No.2 Voltage [‡]	300	300	300	300	volts
DC Grid-No.1 (Control-Grid) Voltage.....	-28	-30	-32	-35	volts
Peak AF Grid-No.1-to-No.1 Voltage.....	80	86	80	96	volts
Zero-Signal DC Plate Current.....	72	60	48	30	ma
Maximum-Signal DC Plate Current.....	240	240	200	240	ma
Zero-Signal DC Grid-No.2 Current.....	2	0.9	0.7	0.5	ma
Maximum-Signal DC Grid-No.2 Current.....	20	20	18	20	ma
Effective Load Resistance (Plate to plate).....	3700	4600	6900	7300	ohms
Maximum-Signal Driving Power (Approx.).....	0.2	0.2	0.1	0.2	watt
Maximum-Signal Power Output (Approx.)*.....	55	75	80	120	watts

Maximum Circuit Values (CCS or ICAS conditions):

Grid-No.1-Circuit Resistance		
For fixed-bias operation.....	30000 <i>max</i>	ohms
For cathode-bias operation.....	Not recommended	

‡ Averaged over any audio-frequency cycle of sine-wave form.

‡ Preferably obtained from a separate source, or from the plate-voltage supply with a voltage divider.

* With zero-impedance driver and perfect regulation, plate-circuit distortion does not exceed 2 per cent. In practice, regulation of plate voltage, grid-No.2 voltage, and grid-No.1 voltage should not be greater than 5 per cent, 5 per cent, and 3 per cent, respectively.

PLATE-MODULATED RF POWER AMPLIFIER—Class C Telephony

Carrier conditions per tube for use with a maximum modulation factor of 1.0

Maximum Ratings:	CCS	ICAS	
DC PLATE VOLTAGE.....	475 <i>max</i>	600 <i>max</i>	volts
DC GRID-NO.2 VOLTAGE.....	300 <i>max</i>	300 <i>max</i>	volts