

RCA Transmitting Tubes

DC Plate Current.....	300	345	312	ma
DC Grid-No.2 Current.....	60	60	45	ma
DC Grid-No.1 Current (Approx.).....	9	10	9	ma
Driving Power (Approx.)♦.....	1.7	2.6	2.5	watts
Power Output (Approx.).....	575	800	1000	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.

♦ Increased driving power is required at frequencies above 40 Mc.

OPERATING CONSIDERATIONS

Type 4-250A requires Special Metal-Shell Giant five-contact socket and may be mounted in vertical position only, base up or down. *OUTLINE 37, Outlines Section.*

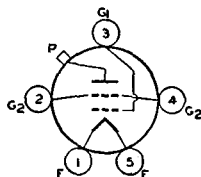
For operation at 125 Mc, plate voltage should be reduced to 85 per cent of maximum rating; at 150 Mc, to 74 per cent. Plate shows an orange-red color when the tube is operated at maximum CCS ratings.

Cooling requirements for seals and envelope are the same as those for the 4-125A/4D21.

BEAM POWER TUBE

4-1000A

Forced-air-cooled thoriated-tungsten-filament type used as af power amplifier and modulator and as rf power amplifier and oscillator at frequencies up to 110 Mc. *OUTLINE 58, Outlines Section.* Filament volts (ac/dc), 7.5; amperes, 21. Direct interelectrode capacitances: grid No.1 to plate (with base shell connected to ground), 0.24 μf ; grid No.1 to filament, grid No.2, and base shell, 27.2 μf ; plate to filament,

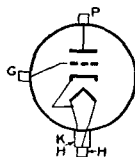


grid-No.2, and base shell, 7.6 μf . Maximum CCS ratings as RF POWER AMPLIFIER AND OSCILLATOR (up to 110 Mc): dc plate volts, 6000 max; dc grid-No.2 (screen-grid) volts, 1000 max; dc grid-No.1 (control-grid) volts, -500 max; dc plate milliamperes, 700 max; grid-No.2 input, 75 max watts; grid-No.1 input, 25 max watts plate dissipation, 1000 max watts. Characteristics as CLASS A₁ AMPLIFIER: plate volts, 2500; grid-No.2 volts, 500; plate milliamperes, 300; transconductance, 10,000 μmhos ; mu-factor, grid No.2 to grid No.1, 7. Plate shows an orange-red color when tube is operated at maximum CCS ratings. The 4-1000A is used principally for renewal purposes.

POWER TRIODE

4C33

Forced-air-cooled heater-cathode type used as Class C plate-pulsed oscillator. May be used with full input up to 625 Mc. Class C maximum CCS plate dissipation, 250 watts. Requires



special mounting designed for use in circuits of the coaxial-cavity type and may be mounted in vertical position only, base up or down. *OUTLINE 74, Outlines Section*, except that grid-flange thickness is 0.040 $\pm$ 0.005 inch and outside diameter of air-cooled radiator is 2 $\pm$ 0.005 inch.

HEATER VOLTAGE (AC/DC)°.....	5.0	volts
HEATER CURRENT.....	9.1	amperes
HEATER STARTING CURRENT.....	16 max	amperes
AMPLIFICATION FACTOR.....	25	
DIRECT INTERELECTRODE CAPACITANCES:		
Grid to plate.....	13	μf
Grid to cathode and heater.....	34	μf
Plate to cathode and heater.....	0.7	μf

° Heater voltage must be applied for a minimum time of 2 minutes before application of plate voltage.

PLATE-PULSED OSCILLATOR—Class C

Maximum CCS Ratings:

PEAK PLATE-PULSE SUPPLY VOLTAGE.....	13000 max	volts
PEAK GRID VOLTAGE.....	-2000 max	volts
PEAK PLATE CURRENT FROM PULSE SUPPLY.....	30 max	amperes
PEAK RECTIFIED GRID CURRENT.....	4 max	amperes

DC PLATE CURRENT.....	30 max	ma
DC GRID CURRENT.....	4 max	ma
PEAK PLATE INPUT.....	390000 max	watts
PLATE DISSIPATION.....	250 max	watts
PULSE LENGTH.....	5 max	μsec

BEAM POWER TUBE

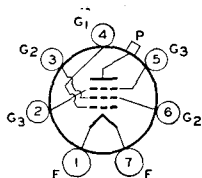
See type 4-125A/4D21.

4D21

BEAM POWER TUBE

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 75 Mc. For operation at 120

4E27/ 8001



Mc, plate voltage and plate input should be reduced to 75 per cent of maximum ratings; at 150 Mc, to 50 per cent. Class C Telegraphy maximum CCS plate dissipation, 75 watts. Requires Giant seven-contact socket and may be mounted in vertical position only, base up or down. OUTLINE 34, *Outlines* Section. Plate shows an orange-red color when the tube is operated at maximum CCS ratings.

FILAMENT VOLTAGE (AC/DC).....	5.0	volts
FILAMENT CURRENT.....	7.5	amperes
TRANSCONDUCTANCE (For plate current of 75 milliamperes).....	2800	μmhos
DIRECT INTERELECTRODE CAPACITANCES:		
Grid to plate (Base shell connected to ground).....	0.06	μf
Grid No.1 to filament, grid No.3, grid No.2, internal shield, and base shell....	12	μf
Plate to filament, grid No.3, grid No.2, internal shield, and base shell.....	6.5	μf

RF POWER AMPLIFIER AND OSCILLATOR—Class C Telegraphy# and

RF POWER AMPLIFIER—Class C FM Telephony

Maximum CCS Ratings:

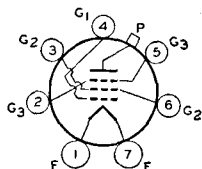
DC PLATE VOLTAGE.....	4000 max	volts
DC GRID-NO.2 (SCREEN-GRID) VOLTAGE.....	750 max	volts
DC GRID-NO.1 (CONTROL-GRID) VOLTAGE.....	-500 max	volts
DC PLATE CURRENT.....	150 max	ma
DC GRID-NO.2 CURRENT.....	30 max	ma
DC GRID-NO.1 CURRENT.....	25 max	ma
PLATE INPUT.....	300 max	watts
GRID-NO.2 INPUT.....	25 max	watts
PLATE DISSIPATION.....	75 max	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.

BEAM POWER TUBE

Thoriated-tungsten-filament type used as af power amplifier and modulator and as rf power amplifier and oscillator. May be used at full input up to 75 Mc. Class C Telegraphy max-

4E27A/ 5-125B



imum CCS plate dissipation, 125 watts. Requires Giant seven-contact socket such as E. F. Johnson Co. socket No. 122-237, or equivalent, and may be mounted in vertical position only, base up or down. OUTLINE 35, *Outlines* Section. Plate shows a cherry-red color when the tube is operated at maximum CCS ratings.

FILAMENT VOLTAGE (AC/DC).....	5.0	volts
FILAMENT CURRENT.....	7.5	amperes
TRANSCONDUCTANCE*.....	2150	μmhos
MU-FACTOR, Grid No.2 to Grid No.1.....	5	
DIRECT INTERELECTRODE CAPACITANCES:		
Grid No.1 to plate (Base shell connected to ground).....	0.1 max	μf
Grid No.1 to filament, grid No.3, grid No.2, and base shell.....	10.5	μf
Plate to filament, grid No.3, grid No.2, and base shell.....	4.7	μf

* Plate volts, 2500; grid-No.2 volts, 500; grid-No.3 volts, 0; plate milliamperes, 50.