

Peak Cathode Current	115	mA
Average Cathode Current	40	mA
Plate Dissipation	10	watts
Bulb Temperature (At hottest point)	250	°C

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance, for cathode-bias operation	2.2	megohms
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° Grid No.2 connected to plate.

Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).

Refer to chart at end of section.

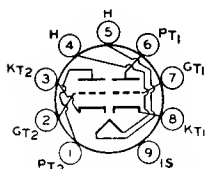
6AQ6

Refer to chart at end of section.

6AQ7GT

Refer to chart at end of section.

6AQ8



9AJ

HIGH-MU TWIN TRIODE

Miniature types used as rf amplifier and self-oscillating mixer in FM/AM radio receivers. Outlines section, 6B; requires 9-contact socket.

**6AQ8/
ECC85**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.435	ampere
Peak Heater-Cathode Voltage	±90 max	volts

Direct Interelectrode Capacitances:	Unit No.1	Unit No.2	
Grid to Plate	1.5	1.5	pF
Cathode to Plate	0.18	0.18	pF
Grid to Cathode, Heater, and Internal Shield	3	3	pF
Plate to Cathode, Heater, and Internal Shield	1.2	1.2	pF
Plate to Grid of Other Unit	0.008 max	0.008 max	pF
Plate to Cathode of Other Unit	0.008 max	0.008 max	pF
Grid to Cathode of Other Unit	0.003 max	0.003 max	pF
Plate of Unit No.1 to Plate of Unit No.2		0.04 max	pF
Grid of Unit No.1 to Grid of Unit No.2		0.003 max	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values, Each Unit)

Plate Supply Voltage	550	volts
Plate Voltage	300	volts
Grid Voltage, Negative-bias value	100	volts
Cathode Current	15	mA
Plate Dissipation:		
For either plate	2.5	watts
For both plates with both units operating	4.5	watts

CHARACTERISTICS

Plate Voltage	250	volts
Grid Voltage, Negative-bias value	2.3	volts
Plate Current	10	mA
Transconductance	5900	μmhos
Amplification Factor	57	

TYPICAL OPERATION (Each Unit)

	RF Amplifier	Converter	
Plate Supply Voltage	250	250	volts
Plate Voltage	230	—	volts
Plate Resistor	1800	12000	ohms
Grid Resistor	—	1	megohm
Grid Voltage	—2	—	volts
RMS Oscillator Voltage	—	3	volts
Cathode-Bias Resistor	200	—	ohms
Plate Resistance (Approx.)	9700	22000	ohms
Transconductance	6000	—	μmhos
Conversion Transconductance	—	2300	μmhos
Input Resistance at frequency of 100 MHz	6000	15000	ohms
Plate Current	10	5.2	mA
Equivalent Noise Resistance	500	—	ohms

MAXIMUM CIRCUIT VALUES (Each Unit)

Grid-Circuit Resistance	1	megohm
Resistance between Cathode and Heater	20000	ohms

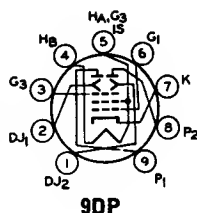
6AR5

Refer to chart at end of section.

6AR8

BEAM-DEFLECTION TUBE

Miniature type used in color-demodulator and burst-gate circuits in color television receivers. This type has two plates and two deflecting electrodes; the control grid varies beam deflection. Outlines section, 6E; requires miniature nine-contact socket. Pin 5 should be connected to cathode at socket. The 6AR8 should be so located in the equipment that it is not subjected to stray magnetic fields. Heater: volts (ac/dc), 6.3; amperes, 0.3.



9DP

Color TV Demodulator

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage (Each Plate)	300	volts
Peak Deflecting-Electrode Voltage (Each Electrode):		
Negative value	150	volts
Positive value	150	volts
Grid-No.3 (Accelerating-Grid) Voltage	300	volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Cathode Current	30	mA
Plate Dissipation (Each Plate)	2	watts
Grid-No.3 Input	1	watt

MAXIMUM CIRCUIT VALUES

Grid-No.1 Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.25	megohm

Class A₁ Amplifier

With both plates connected together and with both deflecting electrodes connected to cathode at socket

CHARACTERISTICS

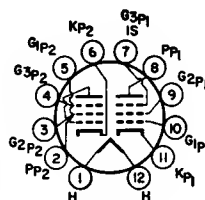
Plate-No.1 Supply Voltage	250	volts
Plate-No.2 Supply Voltage	250	volts
Grid-No.3 Voltage	250	volts
Cathode-Bias Resistor	300	ohms
Transconductance	4000	μmhos
Total Plate Current	10	mA
Grid-No.3 Current	0.4	mA
Grid-No.1 Voltage (Approx.) for total plate current of 10 μA	—14	volts

6AR11

SEMIREMOTE-CUTOFF
TWIN PENTODE

8AR11, 11AR11

Duodecar type used as if-amplifier tube in television receivers. Outlines section, 8A; requires duodecar 12-contact-socket. Types 8AR11 and 11AR11 are identical with type 6AR11 except for heater ratings.



12DM

	6AR11	8AR11	11AR11	
Heater Voltage (ac/dc)	6.3	8.4	11.2	volts
Heater Current	0.8	0.6	0.45	ampere
Heater Warm-up Time (Average)	—	11	11	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances:				
Grid No.1 to Plate	0.026	0.026		pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	10	10		pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	2.8	3		pF
Grid No.1 to Plate of Other Unit	0.002	0.002		pF
Plate of Unit No.1 to Plate of Unit No.2		0.02		pF