ELECTRICAL DATA

HEATER OPERATION

Heater Voltage	6.3 Volts
Heater Current	450 Ma
Heater Warm-up Time	11 Seconds
Maximum Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	
Total DC and Peak	200 Volts
Heater Positive with Respect to Cathode	
DC	100 Volts
Total DC and Peak	200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Triode Section	
Grid to Plate	1.6 Pf
Grid to (k + h + g3 + IS)	1.9 Pf
Plate to (k + h + g3 + IS)	1.6 Pf
Pentode Section	
Grid No. 1 to Plate (Max.)	0.025 Pf
Grid No. 1 to (k and g3 + g2 + h + Tk + IS)	7.0 Pf
Plate to (k and g3 + g2 + h + Tk + IS)	2.4 Pf
Coupling	
Pentode Grid No. 1 to Triode Plate (Max.)	0.03 Pf
Pentode Plate to Triode Plate (Max.)	0.07 Pf

RATINGS (Design Center Rating System)

	Triode Section	Pentode Section
Plate Voltage (Max.)	330	330 Volts
Grid No. 2 Supply Voltage (Max.)	—	330 Volts
Grid No. 2 Voltage	See Rating Chart (Gen. Info. Sec.)	
Plate Dissipation (Max.)	2.8	2.3 Watts
Positive Grid No. 1 Voltage (Max.)	0	0 Volt
Grid No. 2 Input:		
For Grid No. 2 Voltages Up to 150 Volts (Max.)	—	0.55 Watt
For Grid No. 2 Voltages Between 150 Volts and 300 Volts	See Rating Chart (Gen. Info. Sec.)	
Grid No. 1 Circuit Resistance		
Fixed Bias (Max.)	0.5	0.25 Megohm
Self Bias (Max.)	1.0	1.0 Megohm

CHARACTERISTICS AND TYPICAL OPERATION

	Triode Section	Pentode Section
Plate Voltage	125	125 Volts
Grid No. 2 Voltage	—	125 Volts
Grid Voltage	-1.0	— Volt
Cathode Bias Resistor	—	56 Ohms
Plate Current	17	12 Ma
Grid No. 2 Current	—	3.8 Ma
Transconductance	5800	7800 μmhos
Amplification Factor	24	—
Plate Resistance	4100	170,000 Ohms
Ec1 for Ib = 10 μa (Approx.)	-12	-6 Volts
Ib at Ec1 = -3 Volts, RK = 0	—	1.6 Ma

Color Television Type

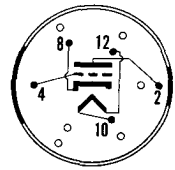
VHF AMPLIFIER

6CW4

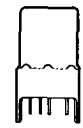
2CW4, 13CW4

High Mu Triode

Construction ..... Nuvistor, Metal
Base ..... Medium Ceramic Wafer Twelvar 5 Pin, E5-65
Basing 12AQ
Outline
Maximum Diameter ..... 0.440 In.
Maximum Seated Height ..... 0.625 In.
Maximum Overall Height ..... 0.800 In.



12AQ



ELECTRICAL DATA

HEATER OPERATION

	13CW4	2CW4	6CW4
Heater Voltage	13.5	2.0	6.3 Volts
Heater Current	60	450	130 Ma

Heater Warm-up Time	—	11	— Seconds
Maximum Heater-Cathode Voltage			100 Volts
DIRECT INTERELECTRODE CAPACITANCES (Shielded)			
Grid to Plate			0.92 Pf
Input: g to (h + k + Shell)			4.3 Pf
Output: p to (h + k + Shell)			1.8 Pf
Heater to Cathode			1.3 Pf
Plate to Cathode			0.18 Pf
RATINGS (Design Maximum Rating System)			
Plate Supply Voltage (Max.)			300 Volts
Plate Voltage (Max.)			135 Volts
Plate Dissipation (Max.)			1.0 Watt
DC Cathode Current (Max.)			15 Ma
Nagative Grid Voltage (Max.)			55 Volts
Grid Circuit Resistance			
Self Bias (Max.)			2.2 Megohms
Fixed Bias (Max.)			0.5 Megohms
CHARACTERISTICS AND TYPICAL OPERATION			
Class A1 Amplifier			
Plate Voltage		70	110 Volts
Grid Resistor		47,000	— Ohms
Cathode Resistor		—	130 Ohms
Plate Current		7.2	7 Ma
Transconductance		12,500	9800 μmhos
Amplification Factor		68	65
Plate Resistance (Approx.)		5440	6600 Ohms
Ec for Ib = 10 μa (Approx.)		—	−4 Volts

6CW5/EL86

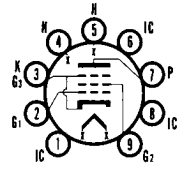
8CW5A, 10CW5/LL86
15CW5/PL84, 30CW5

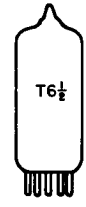
Color Television Type

AUDIO POWER AMPLIFIER

Beam Pentode

Construction .....Miniature T-6½
Base .....Button 9 Pin, E9-1
Basing 9CV
Outline 6-4
Maximum Diameter .....0.875 In.
Maximum Seated Height .....2.813 In.
Maximum Overall Height .....3.063 In.





ELECTRICAL DATA

HEATER OPERATION

	30CW5	15CW5/ PL84	10CW5/ LL86	8CW5A	6CW5/EL86
Heater Voltage	30	15	10.6	8.0	6.3 Volts
Heater Current	150	300	450	600	760 Ma
Heater Warm-up Time	—	—	11	11	— Seconds

Maximum Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	
DC	220 Volts
Total DC and Peak	330 Volts
Heater Positive with Respect to Cathode	
DC	220 Volts
Total DC and Peak	330 Volts
DIRECT INTERELECTRODE CAPACITANCES	
Grid No. 1 to All Other Electrodes Except Plate	1.3 Pf
Plate to All Other Electrodes Except Grid No. 1	6.8 Pf
Plate to Grid No. 1 (Max.)	0.6 Pf
Grid No. 1 to Heater (Max.)	0.25 Pf
RATINGS (Design Maximum Rating System)	
Class A1 Amplifier	
Plate Voltage (Max.)	275 Volts
Grid No. 2 Voltage (Max.)	220 Volts
Plate Dissipation (Max.)	14 Watts
Grid No. 2 Dissipation (Max.)	2.1 Watts
Grid No. 1 Circuit Resistance	
Fixed Bias (Max.)	0.1 Megohm
Vertical Deflection Amplifier(1)—Triode Connected(2)	
Plate Voltage (Max.)	275 Volts
Peak Positive Plate Voltage (Abs. Max.)	2200 Volts