

Pentode Section

Grid No. 1 to Plate (Max.)	0.035	0.050 Pf
Input: g_1 to $(h + k + g_2 + P_k + I_S)$	5.0	5.0 Pf
Output: p to $(h + k + g_2 + P_k + I_S)$	3.3	2.4 Pf
Heater to Cathode	3.0 ⁽²⁾	3.0 Pf

Coupling

Pentode g_1 to Triode Plate (Max.)	0.030	0.035 Pf
Pentode Plate to Triode Plate (Max.)	0.030	0.13 Pf
Triode Grid to Pentode Plate (Max.)	0.002	0.009 Pf

RATINGS (Design Maximum 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.)	2.5	3.0 Watts
Grid No. 2 Dissipation (Max.)	—	0.55 Watt
Positive Grid No. 1 Voltage (Max.)	0	0 Volt
Grid No. 1 Circuit Resistance		
Fixed Bias (Max.)	0.5	0.25 Megohm
Self Bias (Max.)	1.0	1.0 Megohm

Control grid to cathode spacing in the triode section of this type is of such order to magnitude as to preclude the use of voltage between these elements of more than 100 volts dc or peak ac in commercial tube checkers and shorts indicating devices, particularly where mechanical excitation of the tube is employed.

CHARACTERISTICS AND TYPICAL OPERATION

	Triode Section	Pentode Section
Class A1 Amplifier		
Plate Voltage	125	125 Volts
Grid No. 2 Voltage	—	125 Volts
Grid No. 1 Voltage	-1.0	-1.0 Volt
Plate Current	14	12 Ma
Grid No. 2 Current	—	4.0 Ma
Transconductance	8000	6500 μ mhos
Amplification Factor	40	—
Plate Resistance	5000	200 K Ohms
Grid No. 1 Voltage for $I_b = 20 \mu a$ (Approx.)	-9	-9
Gm with $E_c1 = 0 V$, $E_b = 100 V$ and $E_c2 = 70 V$	—	7000 μ mhos

NOTES:

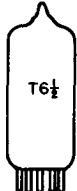
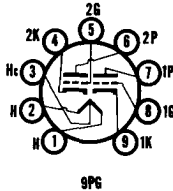
- (1) Shield No. 315 connected to Pin No. 4.
- (2) Shield No. 315 connected to Pin No. 3.

AF AMPLIFIER

20E27

Twin High Mu Triode

Construction	Miniature T-6½
Base	Button 9 Pin, E9-1
Basing	.9PG
Outline	6-2
Maximum Diameter	0.875 In.
Maximum Seated Height	1.937 In.
Maximum Overall Height	2.187 In.



ELECTRICAL DATA

HEATER OPERATION

Heater Voltage	20/10 Volts
Heater Current	100/200 Ma
Heater Warm-up Time	20 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)

	Section No. 1	Section No. 2
Grid to Plate	1.5	1.5 Pf
Grid to Cathode and Heater	1.6	1.6 Pf
Plate to Cathode and Heater	0.2	0.3 Pf

RATINGS (Design Maximum Rating System) (Each Section)

Plate Voltage (Max.)	330 Volts
Grid Voltage	
Negative Bias Value (Max.)	55 Volts
Positive Bias Value (Max.)	0 Volt
Plate Dissipation (Max.)	1.2 Watts

CHARACTERISTICS AND TYPICAL OPERATION (Each Section)

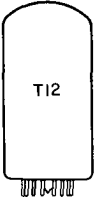
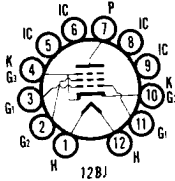
Plate Voltage	100	250 Volts
Grid Voltage	-1	-2 Volts
Amplification Factor	100	100
Plate Resistance	80,000	62,500 Ohms
Transconductance	1250	1600 μ mhos
Plate Current	0.5	1.2 Ma

21HB5A

**HORIZONTAL DEFLECTION
AMPLIFIER**

Beam Power Pentode

Construction.....Compactron T-12
Base Button 12 Pin, E12-74
Basing 12BJ
Outline 12-58
 Maximum Diameter 1.563 In.
 Maximum Seated Height 3.000 In.
 Maximum Overall Height 3.375 In.
The 21HB5A is identical to the 21HB5 except for
 $R_p = 9900$ Ohms, $G_m = 9000$ μ mhos,
 $I_b = 46$ Ma, $I_{c2} = 1.8$ Ma, E_{c1} (for $I_b = 1$ Ma)
 -32 V and Triode amplification factor = 4.8.



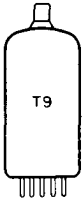
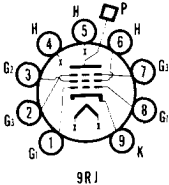
21KQ6

29KQ6

**HORIZONTAL DEFLECTION
AMPLIFIER**

Beam Power Pentode

Construction T-9
Base Button 9 Pin, E9-23
Top Cap C1-1
Basing 9RJ
Outline
 Maximum Diameter 1.188 In.
 Maximum Seated Height 3.760 In.
 Maximum Overall Height 4.133 In.



**ELECTRICAL DATA
HEATER OPERATION**

Heater Voltage.....	29KQ6 29	21KQ6 21.5 Volts
Heater Current	300	450 Ma
Maximum Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
DC		240 Volts
Total DC and Peak.....		240 Volts
Heater Positive with Respect to Cathode		
DC		240 Volts
Total DC and Peak.....		240 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Grid No. 1 to Plate	1.5 Pf
Input: g_1 to ($h + k + g_2 + g_3$)	27 Pf
Output: p to ($h + k + g_2 + g_3$)	11 Pf
Grid No. 1 to Heater	0.12 Pf

RATINGS (Design Maximum Rating System)

Plate Voltage (Max.)	275 Volts
Plate Voltage without Plate Current (Max.)	600 Volts