

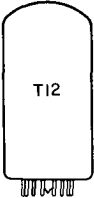
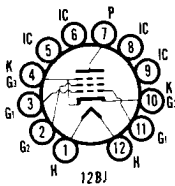
RATINGS (Design Maximum Rating System) (Each Section)		
Plate Voltage (Max.)		330 Volts
Grid Voltage		
Negative Bias Value (Max.)		55 Volts
Positive Bias Value (Max.)		0 Volt
Plate Dissipation (Max.)		1.2 Watts
CHARACTERISTICS AND TYPICAL OPERATION (Each Section)		
Plate Voltage	100	250 Volts
Grid Voltage	-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.



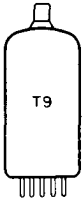
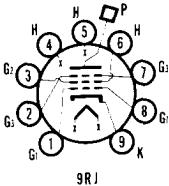
21KQ6

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

	29KQ6	21KQ6
Heater Voltage.....	29	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

Peak Positive Pulse Plate Voltage (Max.) ⁽¹⁾	6500 Volts
Peak Negative Pulse Plate Voltage (Max.) ⁽¹⁾	1650 Volts
Grid No. 3 Voltage (Max.)	70 Volts
Grid No. 2 Voltage (Max.)	275 Volts
Grid No. 2 Voltage without Grid No. 2 Current (Max.)	600 Volts
Peak Negative Pulse Grid No. 1 Voltage (Max.)	330 Volts
Plate Dissipation (Max.)	17 Watts
Grid No. 2 Dissipation	See Rating Chart (Gen. Info. Sec.)
Cathode Current DC (Max.)	275 Ma
Grid No. 1 Circuit Resistance (Max.)	0.5 Megohm
Grid No. 1 Circuit Resistance for Horizontal Deflection	
Amplifier Circuit Only (Max.)	2.2 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	40	50 Volts
Grid No. 3 Voltage ⁽¹⁾	0	0 Volt
Grid No. 2 Voltage	135	200 Volts
Grid No. 2 Circuit Resistance ⁽²⁾	820	0 Ohms
Grid No. 1 Voltage	0	-12 Volts
Plate Current	450	550 ⁽⁴⁾ Ma
Grid No. 2 Current	35	50 ⁽⁴⁾ Ma

NOTES:

- (1) For application in horizontal deflection amplifiers circuits where the maximum pulse duration is 22% of a cycle with a maximum of $18 \mu\text{sec}$.
- (2) To prevent an excessive maximum grid No. 2 dissipation value, during the heating-up period the following minimum values of grid No. 2 circuit resistance are required:

Grid No. 2 Supply Voltage (Volts)	Grid No. 2 Circuit Resistance (Ohms)
135	820
170	1200
230	2200

- (3) In case that an optimum suppression of Barkhausen oscillations and/or snivets is required the Grid No. 3 may be connected to a positive voltage of about 15 to 40 volts. It should, however, be noted that the current to Grid No. 3 is dependent upon the plate load of tube and may vary between 1 and 4 Ma.
- (4) This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

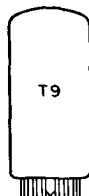
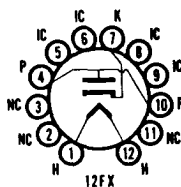
DAMPER

22BW3

6BW3, 17BW3

Heater-Cathode Diode

Construction.....	Compactron T-9
Base	Button 12 Pin E12-70
Basing	12FX
Outline	9-60
Maximum Diameter	1.188 In.
Maximum Seated Height	2.500 In.
Maximum Overall Height	2.875 In.



ELECTRICAL DATA

HEATER OPERATION

Heater Voltage	6.3	16.8	22.4 Volts
Heater Current	1600	600	450 Ma
Heater Warm-up Time	—	11	11 Seconds
Maximum Heater-Cathode Voltage			
Heater Negative with Respect to Cathode			
DC			900 Volts
Total DC and Peak			5000 Volts
Heater Positive with Respect to Cathode			
DC			100 Volts
Total DC and Peak			300 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Heater to Cathode	3.8 Pf
Plate to Cathode and Heater.....	6.0 Pf
Cathode to Plate and Heater.....	8.5 Pf

RATINGS (Design Maximum Rating System)

Damper Service

Peak Inverse Plate Voltage (Max.) ⁽¹⁾	5000 Volts
Plate Dissipation (Max.)	6.5 Watts
Steady State Peak Current (Max.)	1100 Ma
DC Plate Current (Max.)	175 Ma