

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	120	135 Volts
Grid Voltage	0	-1 Volt
Plate Current	15.0	12.5 Ma
Transconductance	18,000	14,500 μ mhos
Amplification Factor	82	78
Grid Cutoff Bias		
GM = 150 μ mhos	-5.1	-5.7 Volts
GM = 1500 μ mhos	—	-2.7 Volts
Grid Resistance	0.1	0 Megohm
Hot Input Resistance ⁽¹⁾	—	1000 Ohms
Hot Input Capacitance ⁽²⁾	—	8.5 Pf
Noise Figure ⁽³⁾	4.0	4.2 db

NOTES:

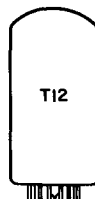
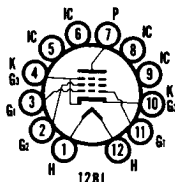
- (1) With JEDEC Shield No. 316 connected to Pin No. 2.
- (2) Measured at 200 MHz with plate at signal ground $E_{c1} = -1.5$ volts.
- (3) In a 200 MHz noise matched, optimized, neutralized grounded cathode, triode amplifier stage.

HORIZONTAL DEFLECTION AMPLIFIER

6HB5
21HB5

Beam Power Pentode

Construction	Compactron T-12
Base	Butt-on 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.

**ELECTRICAL DATA****HEATER OPERATION**

	21HB5	6HB5
Heater Voltage	21	6.3 Volts
Heater Current	450	1500 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)

Grid No. 1 to Plate: (g1 to p)	0.4 Pf
Input: g1 to (h + k + g2 + bp)	22 Pf
Output: p to (h + k + g2 + bp)	9.0 Pf

RATINGS (Design Maximum Rating System)**Horizontal-Deflection Amplifier Service⁽¹⁾**

DC Plate-Supply Voltage (Boost + DC Power Supply) (Max.)	770 Volts
Peak Positive Pulse Plate Voltage (Max.)	6000 Volts
Peak Negative Pulse Plate Voltage (Max.)	1500 Volts
Screen Voltage (Max.)	220 Volts
Negative DC Grid No. 1 Voltage (Max.)	55 Volts
Peak Negative Grid No. 1 Voltage (Max.)	330 Volts
Plate Dissipation (Max.) ⁽²⁾	18 Watts
Screen Dissipation (Max.)	3.5 Watts
DC Cathode Current (Max.)	230 Ma
Peak Cathode Current (Max.)	800 Ma
Grid No. 1 Circuit Resistance (Max.)	1.0 Megohm
Bulb Temperature at Hottest Point (Max.)	220 °C

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	5000	60	130 Volts
Screen Voltage	130	130	130 Volts
Grid No. 1 Voltage	—	0 ⁽³⁾	-20 Volts
Plate Resistance (Approx.)	—	—	11,000 Ohms
Transconductance	—	—	9100 μ mhos
Plate Current	—	410	50 Ma

Screen Current	—	24	1.75 Ma
Grid No. 1 Voltage (Approx.)			
I _b = 1.0 Ma	-66	—	-33 Volts
Triode Amplification Factor ⁽⁴⁾	—	—	4.7

NOTES:

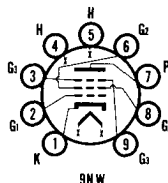
- (1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
- (2) In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.
- (3) Applied for short interval (two seconds maximum) so as not to damage tube.
- (4) Triode connection (screen tied to plate) with E_b = E_{c2} = 130 volts and E_{c1} = -20 volts.

6HB6**15HB6**

Color Television Type

**VERTICAL DEFLECTION
AMPLIFIER****Beam Power Pentode**

Construction Miniature T-5½
 Base Button 9 Pin, E9-1
 Basing 9NW
 Outline 6-4
 Maximum Diameter 0.875 In.
 Maximum Seated Height 2.812 In.
 Maximum Overall Height 3.062 In.

**ELECTRICAL DATA****HEATER OPERATION**

	15HB6	6HB6
Heater Voltage	14.7	6.3 Volts
Heater Current	300	760 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

Grid No. 1 to Plate	0.18 Pf
Input	13 Pf
Output	8 Pf

RATINGS (Design Maximum Rating System)

Plate Voltage (Max.)	350 Volts
Peak Positive Plate Voltage (Max.)	2500 Volts
Grid No. 2 Voltage (Max.)	300 Volts
Grid No. 1 Voltage (Max.)	-100 Volts
Plate Dissipation (Max.)	10 Watts
Grid No. 2 Dissipation (Max.)	2 Watts
Grid No. 1 Circuit Resistance	
Fixed Bias (Max.)	1.0 Megohm
Cathode Bias (Max.)	2.2 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	250	250 Volts
Grid No. 2 Voltage	125	250 Volts
Plate Current	40	40 Ma
Grid No. 2 Current	4.2	6.2 Ma
Cathode Resistor	3.3	100 Ohms
Amplification Factor (G1 to G2)	—	33
Transconductance	24,000	20,000 μmhos
Plate Resistance	28,000	24,000 Ohms
G1 Voltage for I _b = 100 μa	-6.4	-13 Volts

INSTANTANEOUS PLATE KNEE CHARACTERISTICS

E_b = 60 Volts; E_{c2} = 250 Volts; E_{c1} = 0 Volt;
 I_b = 150 Ma; I_{c2} = 37 Ma