

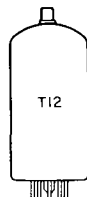
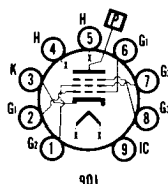
Color Television Type

HORIZONTAL DEFLECTION
AMPLIFIER**6JE6C/6LQ6**

24JE6A, 24LQ6, 31LQ6

Beam Power Pentode

Construction	Novar T-12
Base	Button 9 Pin, E9-88 or E9-76
Top Cap	C1-1
Basing	.9QL
Outline	12-116
Maximum Diameter	1.563 In.
Maximum Seated Height	3.750 In.
Maximum Overall Height	4.130 In.



ELECTRICAL DATA

HEATER OPERATION

	31LQ6	24JE6A 24LQ6	6JE6C/6LQ6
Heater Voltage	31	24	6.3 Volts
Heater Current	450	600	2500 Ma
Heater Warm-up Time	11	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 to Plate	0.56 Pf
Input: g1 to (h + k + g2 + g3)	22 Pf
Output: p to (h + k + g2 + g3)	11 Pf

RATINGS (Design Maximum Rating System)

Horizontal Deflection Amplifier⁽¹⁾

DC Plate Supply Voltage (Boost + DC Power Supply) (Max.)	990 Volts
Peak Positive Plate Voltage (Max.)	7500 Volts
Peak Negative Plate Voltage (Max.)	1200 Volts
Grid No. 3 Voltage (Max.)	75 Volts
Grid No. 2 Voltage (Max.)	220 Volts
Peak Negative Grid No. 1 Voltage (Max.)	330 Volts
Plate Dissipation (Max.) ⁽²⁾	30 Watts
Grid No. 2 Input (Max.)	5 Watts
Average Cathode Current (Max.)	350 Ma
Peak Cathode Current (Max.)	1200 Ma
Grid No. 1 Circuit Resistance (Max.) ⁽²⁾	0.47 Megohms
Plate Pulsed	10 Megohms
Bulb Temperature (At Hottest Point)	250 °C

AVERAGE CHARACTERISTICS

Plate Voltage	175	60 Volts
Grid No. 2 Voltage	125	125 Volts
Grid No. 1 Voltage	-25	0 Volts
Grid No. 3 Voltage	0	0 Volts
Plate Current	130	600 Ma
Grid No. 2 Current	2.8	30 Ma
Transconductance	10,500	— μ mhos
Triode Amplification Factor (Grid No. 2 Connected to Plate)		
(Eb = Ec2 = 125 Volts; Ec1 = -25 Volts)	3.0 ⁽³⁾	—
Plate Resistance (Approx.)	5500	— Ohms
Grid No. 1 Voltage for Ib = 1 Ma (Approx.)	-54	— Volts

SPECIAL TESTS AND RATINGS

Primary Beam—Plate Emission⁽⁴⁾

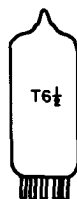
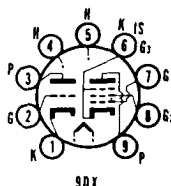
Initial Maximum	100 μ a
After 1000 Hours of Operation Within Ratings (Max.)	100 μ a

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) Amplification factor with tube operating as a triode with 125 volts on the plate and Grid No. 2 and -25 volts on Grid No. 1.

6JE8**8JE8, 11JE8****SYNC SEPARATOR or
VOLTAGE AMP. (T)
VIDEO AMPLIFIER (P)****High Mu Triode and
Sharp Cutoff Pentode**

Construction Miniature T-6½
 Base Button 9 Pin, E9-1
 Basing 9DX
 Outline 6-3
 Maximum Diameter 0.875 In.
 Maximum Seated Height 2.375 In.
 Maximum Overall Height 2.625 In.

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

	11JE8	8JE8	6JE8
Heater Voltage.....	10.9	8.2	6.3 Volts
Heater Current	450	600	780 Ma
Heater Warm-up Time	11	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	4.2 Pf
Input: g to (h + k)	2.4 Pf
Output: p to (h + k)	0.4 Pf

Pentode Section

Grid No. 1 to Plate (Max.).....	0.1 Pf
Input: g1 to (h + k + g2 + g3 + IS).....	10 Pf
Output: p to (h + k + g2 + g3 + IS).....	3.6 Pf

Coupling

Pentode Grid No. 1 to Triode Plate (Max.)	0.005 Pf
Triode Grid to Pentode Plate (Max.)	0.018 Pf
Pentode Plate to Triode Plate (Max.)	0.17 Pf

RATINGS (Design Maximum Rating System)

Plate Voltage (Max.)	300	330 Volts
Grid No. 2 Supply Voltage.....	—	330 Volts
Grid No. 2 Voltage	See Rating Chart (Gen. Info. Sec.)	
Plate Dissipation (Max.)	1.0	5 ⁽¹⁾ Watts
Grid No. 2 Dissipation (Max.)	—	2 ⁽¹⁾ Watts
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

CHARACTERISTICS AND TYPICAL OPERATION

	Triode Section	Pentode Section
Class A1 Amplifier		
Plate Voltage	200	250 Volts
Grid No. 2 Voltage	—	170 Volts
Grid No. 1 Voltage	—2	0 Volts
Cathode Bias Resistor	—	82 Ohms
Plate Current	4.5	22 Ma
Grid No. 2 Current	—	4.0 Ma
Transconductance	4200	12,000 μ mhos
Amplification Factor	70	—
Plate Resistance (Approx.)	—	140,000 Ohms
E _{c1} for I _b = 10 μ a (Approx.)	—5	—10 Volts

INSTANTANEOUS PLATE KNEE CHARACTERISTICSE_b = 60 V; E_{c2} = 170 V, and E_{c1} = 0 VI_b = 48 Ma (Approx.) and I_{c2} = 12 Ma (Approx.)