

Diode Section

Tube Voltage Drop

I_b = 250 Ma DC

21 Volts

NOTES:

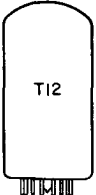
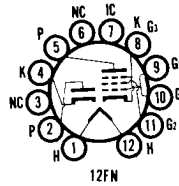
- (1) For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
- (2) In stages operating with grid 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 Eb = Ec2 = 130 volts and Ec1 = -22.5 volts.

**DAMPER
HORIZONTAL DEFLECTION
AMPLIFIER**

33GY7A

Diode and Beam Power Pentode

Construction.....Compactron T-12
Base Button 12 Pin, E12-74
Basing 12FN
Outline 12-56
Maximum Diameter 1.563 In.
Maximum Seated Height 2.500 In.
Maximum Overall Height 2.875 In.



**ELECTRICAL DATA
HEATER OPERATION**

Heater Voltage.....
Heater Current
Heater Warm-up Time
Maximum Heater-Cathode Voltage
Heater Negative with Respect to Cathode
DC
Total DC and Peak.....
Heater Positive with Respect to Cathode
DC
Total DC and Peak.....

33.6 Volts
450 Ma
11 Seconds
Pentode
Diode
400 Volts
4200 Volts
100 Volts
200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Diode Section

Cathode to Plate and Heater: k to (p + h)
Plate to Cathode and Heater: p to (k + h)
Heater to Cathode: (h to k)

8.5 Pf
5.2 Pf
3.2 Pf

Pentode Section

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

0.2 Pf
17 Pf
7.0 Pf

RATINGS (Design Maximum Rating System)

Horizontal-Deflection Amplifier Service⁽¹⁾

DC Plate Supply Voltage (Boost + DC Power Supply) (Max.)
Peak Positive Pulse Plate Voltage (Max.)
Peak Negative Pulse Plate Voltage (Max.)
Screen Voltage (Max.)
Negative DC Grid No. 1 Voltage (Max.).....
Peak Negative Grid No. 1 Voltage (Max.)
Plate Dissipation (Max.)
Screen Dissipation (Max.)⁽²⁾
DC Cathode Current (Max.)
Peak Cathode Current (Max.)
Grid No. 1 Circuit Resistance (Max.)

**Pentode
Section**

400 Volts
5000 Volts
0 Volt
150 Volts
55 Volts
330 Volts
9.0 Watts
3.0 Watts
155 Ma
540 Ma
1.0 Megohm

TV Damper Service⁽¹⁾

Peak Inverse Plate Voltage
Plate Dissipation
Steady State Peak Plate Current.....
DC Output Current.....
Bulb Temperature at Hottest Point

**Diode
Section**

4200 Volts
3.8 Watts
810 Ma
135 Ma
200 °C

CHARACTERISTICS AND TYPICAL OPERATION**Pentode Section**

Plate Voltage	5000	60	130 Volts
Screen Voltage	130	130	130 Volts
Grid No. 1 Voltage	—	0	-22.5 Volts
Plate Resistance (Approx.)	—	—	10,000 Ohms
Transconductance	—	—	6500 μ mhos
Plate Current	—	320	48 Ma
Screen Current	—	22	2.9 Ma
Grid No. 1 Voltage (Approx.)	—	—	—
I _b = 1.0 Ma	-80	—	-40 Volts
Triode Amplification Factor ⁽³⁾	—	—	4.0

Diode Section

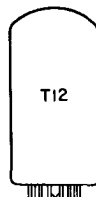
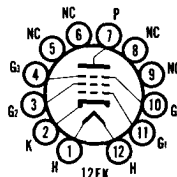
Tube Voltage Drop	—	—	21 Volts
I _b = 250 Ma DC	—	—	—

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 130 volts on the plate and Grid No. 2 and -22.5 volts on Grid No. 1.

33J1V6**HORIZONTAL DEFLECTION AMPLIFIER****Beam Power Pentode**

Construction	Compactron T-12
Base	Button 12 Pin, E12-74
Basing	12FK
Outline	12-58
Maximum Diameter	1.562 In.
Maximum Seated Height	3.000 In.
Maximum Overall Height	3.375 In.

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

Heater Voltage	33 Volts
Heater Current	300 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	0.4 Pf
Input	22 Pf
Output	9.0 Pf

RATINGS (Design Maximum Rating System)**Horizontal Deflection Amplifier⁽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
Positive DC Beam Plate Voltage (Max.)	70 Volts
Plate Dissipation (Max.)	18 Watts
Negative DC Grid No. 1 Voltage	55 Volts
Peak Negative Grid No. 1 Voltage (Max.)	330 Volts
Grid No. 2 Voltage (Max.)	220 Volts
Grid No. 2 Dissipation (Max.) ⁽²⁾	3.5 Watts
Average 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	130 Volts
Grid No. 2 Voltage	130 Volts
Grid No. 1 Voltage	-20 Volts