Beam Power Tube

NOVAR TYPE

For Horizontal-Deflection-Amplifier Service in Low-B+ Black-and-White TV Receivers

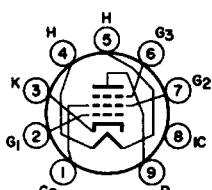
Electrical:

Heater Characteristics and Ratings:		
Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	1.600	amp
Peak heater-cathode voltage:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200[a] max.	volts
Direct Interelectrode Capacitances (Approx.)[b]		
G1 to P	0.7	pf
Input: G1 to (K,G3,G2,H)	22.0	pf
Output: P to (K,G3,G2,H)	9.0	pf

Mechanical:

Operating Position	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length	3.410"
Maximum Seated Length	3.030"
Length, Base Seat to Bulb Top (Excluding tip)	2.510" to 2.690"
Diameter	1.438" to 1.562"
Bulb	T12
Socket	Cinch Mfg. Co. No.149 19 00 033, Industrial Electronic Hardware Corp. No.SO-0968-SL1, or equivalent
Base	Large-Button Novar 9-Pin (JEDEC No.E9-76)
Basing Designation for BOTTOM VIEW	9QU

Pin 1 – Grid No.2
Pin 2 – Grid No.1
Pin 3 – Cathode
Pin 4 – Heater
Pin 5 – Heater



Pin 6 – Grid No.3
Pin 7 – Grid No.2
Pin 8 – Do Not Use
Pin 9 – Plate

Characteristics, Class A_1 Amplifier:

	Triode Connection[c]	*Pentode Connection*		
Plate Voltage	125	50	130	volts
Grid No.3	*Connected to cathode at socket*			
Grid-No.2 Voltage	–	125	125	volts
Grid-No.1 Voltage	-20	0	-20	volts
Amplification Factor	4.1	–	–	
Plate Resistance (Approx.)	–	–	12000	ohms
Transconductance	–	–	10000	μmhos

	Triode Connection[c]	*Pentode Connection*		
Plate Current	–	525[d]	80	ma
Grid-No.2 Current	–	32[d]	2.5	ma
Grid-No.1 Voltage (Approx.) for plate ma. = 1.	–	–	-40	volts

HORIZONTAL-DEFLECTION AMPLIFIER

Maximum Ratings, *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[e]

DC Plate Supply Voltage	770 max.	volts
Peak Positive-Pulse Plate Voltage[f]	6500 max.	volts
Peak Negative-Pulse Plate Voltage	1500 max.	volts
DC Grid-No.3 (Suppressor-Grid) Voltage (See *Operating Considerations*)	75 max.	volts
DC Grid-No.2 (Screen-Grid) Voltage	220 max.	volts
DC Grid-No.1 (Control-Grid) Voltage:		
Negative-bias value	55 max.	volts
Peak Negative-Pulse Grid-No.1 Voltage	330 max.	volts
Cathode Current:		
Peak	950 max.	ma
Average	275 max.	ma
Grid-No.2 Input	3.5 max.	watts
Plate Dissipation[g]	17 max.	watts
Bulb Temperature (At hottest point on bulb surface)	220 max.	°C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For grid-No.1-resistor-bias operation	2.2 max.	megohms

[a] The dc component must not exceed 100 volts.

[b] Without external shield.

[c] With grid No.2 connected to plate at socket.

[d] This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

[e] As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

[f] This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system 15 per cent of one horizontal scanning cycle is 10 microseconds.

[g] An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

OPERATING CONSIDERATIONS

In *Horizontal-Deflection-Amplifier Service*, a positive voltage may be applied to grid No.3 to reduce interference from "snivets" which may occur in both vhf and uhf television receivers. A typical value for this voltage is 30 volts.

DIMENSIONAL OUTLINE AND CURVES

shown under Type 22JG6 also apply to the 6JG6