

Beam Power Tube

NOVAR TYPE

SEPARATE GRID-No 3 BASE-PIN TERMINAL FOR "SNIVETS" CONTROL^a

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

Electrical:

Heater Ratings and Characteristics:

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	1.200	amp
Peak heater-cathode voltage:		
Heater negative with respect to cathode.	200 max.	volts
Heater positive with respect to cathode.	200 ^b max.	volts

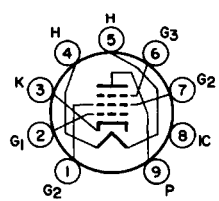
Direct Interelectrode Capacitances (Approx.):^c

Grid No.1 to plate	0.26	pf
Input: G1 to (K,G3,G2,H)	15.0	pf
Output: P to (K,G3,G2,H)	6.5	pf

Mechanical:

Operating Position	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length	2.880"
Seated Length	2.250" to 2.500"
Diameter	1.438" to 1.562"
Dimensional Outline	See General Section
Bulb	T12
Base	Large-Button Novar 9-Pin with Exhaust Tip (JEDEC No.E9-88)
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 A₁ Amplifier:

	Triode Connection ^d	Pentode Connection	
Plate Voltage	150	60 250	volts
Grid No.3	-	Connected to Cathode at socket	
Grid-No.2 Voltage	150	150 150	volts
Grid-No.1 Voltage	-22.5	0 -22.5	volts
Amplification Factor	4.4	-	
Plate Resistance (Approx.)	-	15000	ohms
Transconductance	-	7100	μmhos



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	Triode Connection ^d	Pentode Connection	
Plate Current.	—	390 ^e 70	ma
Grid-No.2 Current.	—	32 ^e 2.1	ma
Grid-No.1 Voltage (Approx.) for plate ma = 1	—	— -42	volts

HORIZONTAL-DEFLECTION AMPLIFIER

Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system^f

DC Plate Supply Voltage.	770 max.	volts
Peak Positive-Pulse Plate Voltage ^g	6500 max.	volts
Peak Negative-Pulse Plate Voltage.	1500 max.	volts
DC Grid-No.3 (Suppressor-Grid) Voltage ^a .	70 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	550 max.	ma
Average.	175 max.	ma
Grid-No.2 Input.	3.5 max.	watts
Plate Dissipation ^h	17.5 max.	watts
Bulb Temperature (At hottest point on bulb surface)	240 max.	°C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For grid-resistor-bias operation 1 max. megohm

^a A positive voltage may be applied to grid No.3 to reduce interference from "snivets" which may occur in television receivers. A typical value for this voltage is 30 volts.

^b The dc component must not exceed 100 volts.

^c Without external shield.

^d With grid No.2 connected to plate at socket.

^e This value can be measured by a method involving a recurrent wave form such that the maximum ratings of the tube will not be exceeded.

^f As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.

^g 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.

^h An adequate bias resistor or other means is required to protect the tube in the absence of excitation.



AVERAGE CHARACTERISTICS

$E_f = 6.3$ VOLTS
GRID No.3 CONNECTED TO
CATHODE AT SOCKET.
GRID-No.2 VOLTS=150

