

Beam Power Tube

NOVAR TYPE

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

ELECTRICAL

Heater Characteristics and Ratings

Current	0.450 ± 0.030	A
Voltage (AC or DC).	22.0	V
At heater amperes = 0.450		
Warm-up time (Average).	11	s
Maximum heater-cathode voltage:		
Heater negative with respect to cathode:		
Peak.	200	V
Heater positive with respect to cathode:		
Peak.	200	V
DC component.	100	V

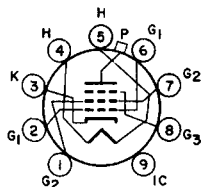
Direct Interelectrode Capacitances^a

Grid No.1 to plate.	1.2	pF
Input: G ₁ to (K, G ₃ , G ₂ , H).	22.0	pF
Output: P to (K, G ₃ , G ₂ , H).	9.0	pF

MECHANICAL

Operating Position.	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length.	3.550 in
Seated Length	2.910 to 3.170 in
Diameter.	1.438 to 1.562 in
Dimensional Outline	See General Section
Bulb.	T12
Cap	Skirted Miniature (JEDEC No.C1-2 or C1-3)
Base.	Large-Button Novar 9-Pin with Exhaust Tip (JEDEC No.E9-88)
Basing Designation for BOTTOM VIEW.	9QL

- Pin 1—Grid No.2
- Pin 2—Grid No.1
- Pin 3—Cathode
- Pin 4—Heater
- Pin 5—Heater
- Pin 6—Grid No.1
- Pin 7—Grid No.2
- Pin 8—Grid No.3
- Pin 9—Do Not Use
- Cap—Plate



CHARACTERISTICS

Peak Positive-Pulse Plate Voltage ^b . . .	6500	-	-	V
Plate Voltage	-	50	130	V
Grid No.3	Connected to cathode at socket			
Grid-No.2 Voltage.	125	125	125	V
Grid-No.1 Voltage	-	0	-20	V
Plate Resistance (Approx.).	-	-	12000	Ω



Transconductance	-	-	10000	μ mhos
Plate Current	-	525 ^c	80	mA
Grid-No.2 Current	-	32 ^c	2.5	mA
Grid-No.1 Voltage (Approx.)	-125	-	-40	V

For plate mA = 1

Triode Amplification Factor

(Triode connection: grid No.2

connected to plate at socket.

Plate volts = grid-No.2 volts =

125; grid-No.1 volts = -20) . . . - - 4.1

HORIZONTAL-DEFLECTION AMPLIFIER

Maximum Ratings, Design-Maximum Values

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

DC Plate Supply Voltage	770	V
Peak Positive-Pulse Plate Voltage ^d	6500	V
Peak Negative-Pulse Plate Voltage	1500	V
DC Grid-No.3 Voltage ^e	100	V
DC Grid-No.2 (Screen-Grid) Voltage.	220	V
Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage.	330	V
Cathode Current		
Peak	950	mA
Average	275	mA
Grid-No.2 Input	3.5	W
Plate Dissipation ^f	17	W
Bulb Temperature.	240	°C

At hottest point on bulb surface

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance

For grid-resistor-bias operation^f 0.47 M Ω

For plate-pulsed operation. 10 M Ω

(Horizontal-deflection circuits only)

^a Without external shield.

^b Under conditions shown in footnote^d.

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

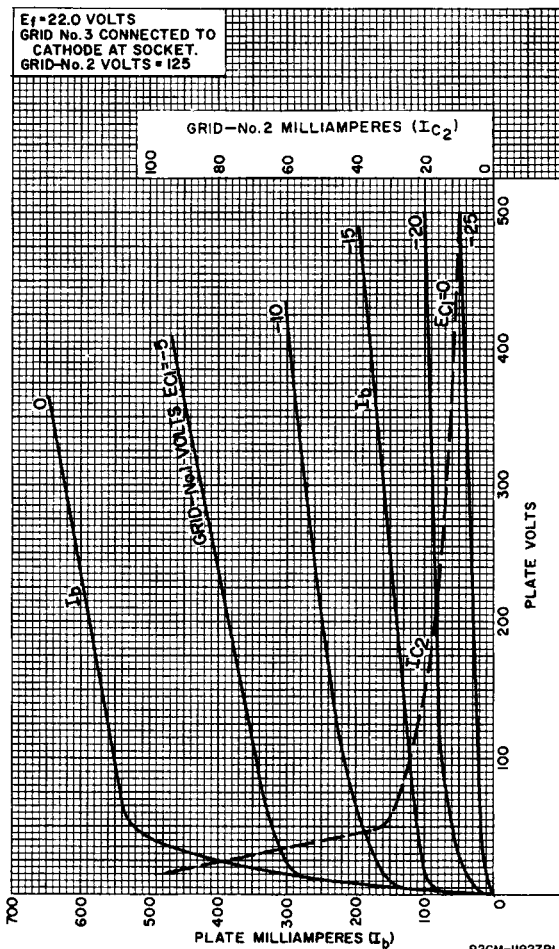
^d This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

^e 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 50 volts.

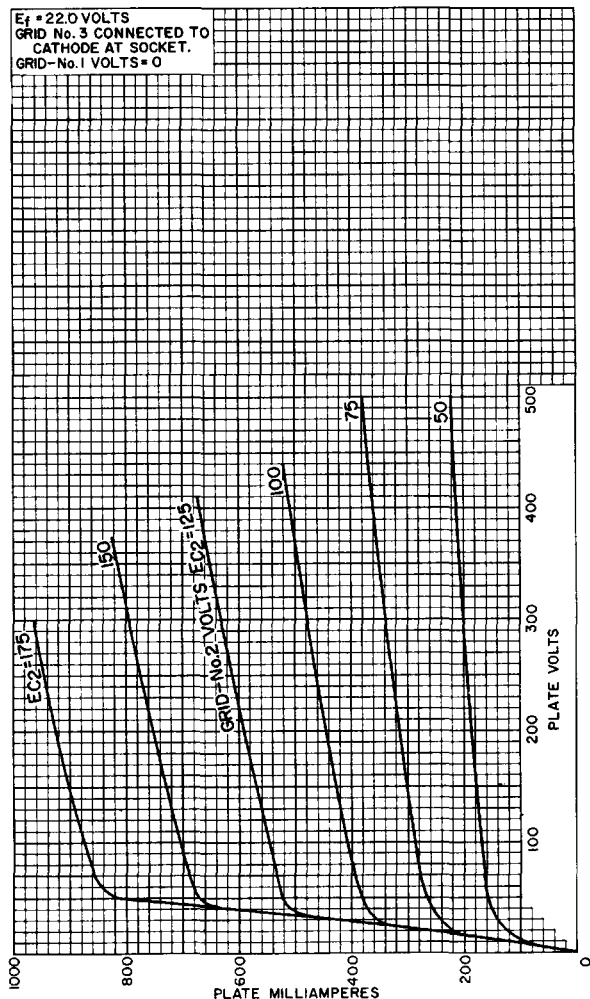
^f An adequate bias resistor or other means is required to protect the tube in the absence of excitation.



Average Characteristics



Average Characteristics



92CM-11923R2

