

# 22JU6

## Beam Power Tube

NOVAR TYPE

SEPARATE GRID-NO.3 BASE-PIN TERMINAL FOR "SNIVETS" CONTROL<sup>h</sup>

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

### Electrical:

#### Heater Characteristics and Ratings:

Current . . . . .	0.450 ± 0.030	amp
Voltage (AC or DC) at heater amperes = 0.450 . . . . .	22.0	volts
Warm-up time (Average) . . . . .	11	sec
Peak heater-cathode voltage:		
Heater negative with respect to cathode . . . . .	200 max.	volts
Heater positive with respect to cathode . . . . .	200 <sup>a</sup> max.	volts

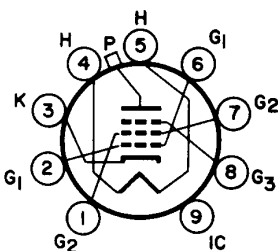
#### Direct Interelectrode Capacitances (Approx.)<sup>b</sup>:

Grid No.1 to plate . . . . .	1.2	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 . . . . . 3.550"  
 Seated Length . . . . . 2.910" to 3.170"  
 Diameter . . . . . 1.438" to 1.562"  
 Bulb . . . . . T12  
 Cap. . . . . Skirted Miniature (JEDEC No.C1-2 or C1-3)  
 Socket . . . . . Novar  
 Bases (Alternates):

- Large-Button Novar 9-Pin (JEDEC No.E9-76)
- 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:

	Triode Connec- tion <sup>c</sup>			
Plate Voltage . . . . .	50	130	125	volts
Peak Positive-Pulse Plate Voltage <sup>d</sup> . . . . .	6500	-	-	volts



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DATA 1  
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Triode  
Con-  
nec-  
tion<sup>c</sup>

Grid No.3. . . . .	Connected to cathode at socket				
Grid-No.2 Voltage. . . . .	125	125	125	125	volts
Grid-No.1 Voltage. . . . .	-	0	-20	-20	volts
Amplification Factor . . . . .	-	-	-	4.7	
Plate Resistance (Approx.) . . . . .	-	-	18000	-	ohms
Transconductance . . . . .	-	-	7000	-	μmhos
Plate Current. . . . .	-	470 <sup>e</sup>	45	-	ma
Grid-No.2 Current. . . . .	-	32 <sup>e</sup>	1.5	-	ma
Grid-No.1 Voltage (Approx.) for plate ma. = 1. . . . .	-75	-	-32	-	volts

## HORIZONTAL-DEFLECTION AMPLIFIER

### Maximum Ratings, Design-Maximum Values:

*For operation in a 525-line, 30-frame system<sup>f</sup>*

DC Plate Supply Voltage. . . . .	770 max.	volts
Peak Positive-Pulse Plate Voltage <sup>g</sup> . . . . .	6500 max.	volts
Peak Negative-Pulse Plate Voltage. . . . .	1500 max.	volts
DC Grid-No.3 Voltage <sup>h</sup> . . . . .	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 <sup>j</sup> . . . . .	17 max.	watts
Bulb Temperature (At hottest point on bulb surface) . . . . .	220 max.	°C

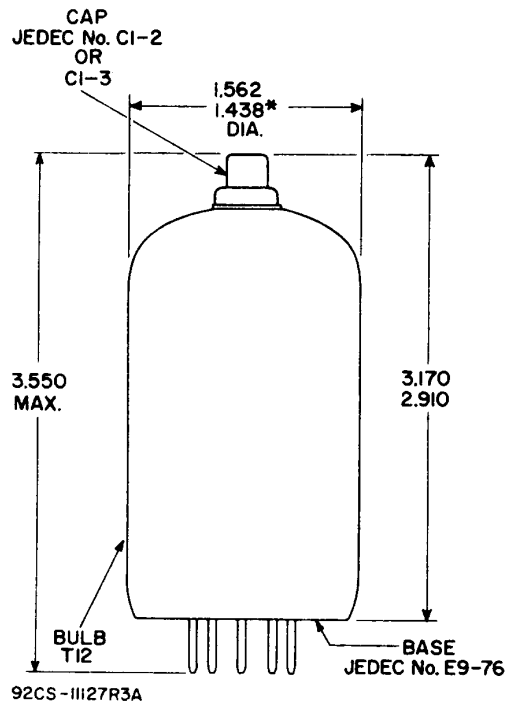
### Maximum Circuit Values:

Grid-No.1 Circuit Resistance:		
For grid-No.1-resistor-bias operation <sup>j</sup> .	0.47 max.	megohm
For plate-pulsed operation (horizontal-deflection circuits only) .	10 max.	megohms

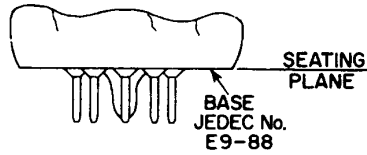
- a** The dc component must not exceed 100 volts.
- b** Without external shield.
- c** With grid No.2 connected to plate at socket.
- d** Under conditions shown in footnote<sup>g</sup>.
- e** This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube 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** 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.
- j** An adequate bias resistor or other means is required to protect the tube in the absence of excitation.



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## Alternative Base Bottom Exhaust



92CS-III27R3B

DIMENSIONS IN INCHES

A detailed drawing of the E9-88 base is available from  
RCA, Commercial Engineering 51-2, Harrison, N.J. 07029.

\*Applies to the minimum diameter except in the area of the seal.

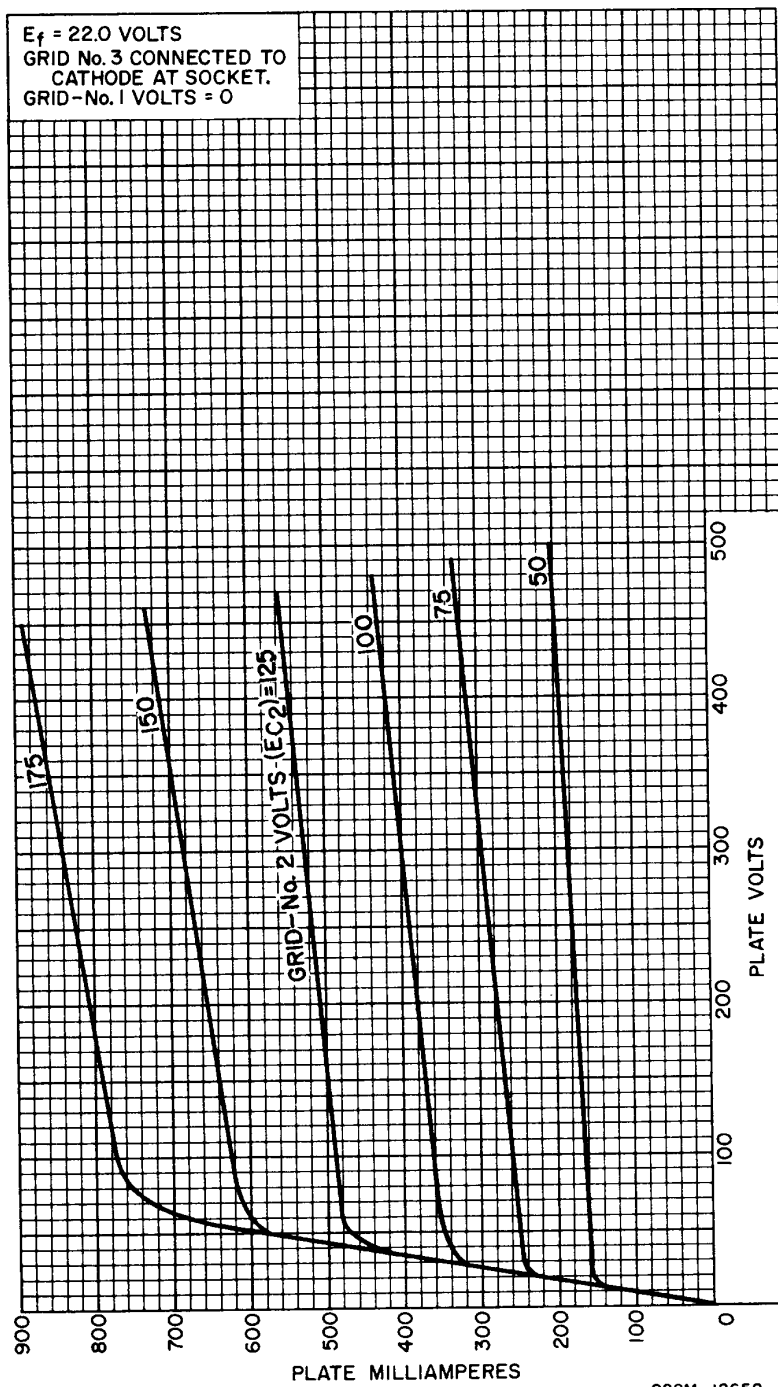


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DATA 2  
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## AVERAGE PLATE CHARACTERISTICS



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