

Beam Power Tube

NOVAR TYPE

SEPARATE GRID-NO.3 BASE-PIN TERMINAL FOR "SNIVETS" CONTROL^h

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 = 0.45C.	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 ^a max.	volts

Direct Interelectrode Capacitances

(Approx.)^b:

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

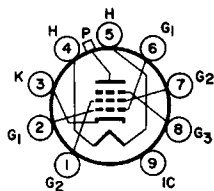
Pin 6 - Grid No.1

Pin 7 - Grid No.2

Pin 8 - Grid No.3

Pin 9 - Do Not Use

Cap - Plate



Characteristics:

			Triode Connec- tion ^c	
Plate Voltage	- 50 130	125	volts	
Peak Positive-Pulse Plate Voltage ^d	6500 - -	-	volts	



22J6

	Triode Con- nec- tion ^c				
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 ^e	45	-	ma
Grid-No.2 Current.	-	32 ^e	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^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 Voltage ^h	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 ^j	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 ^j	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^g.

^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.

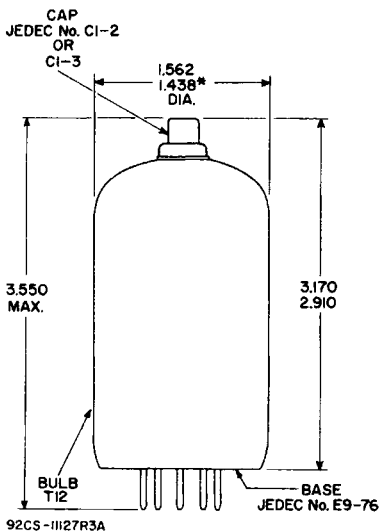
^f As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

^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.

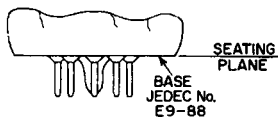
^h In horizontal-deflection-amplifier service, a positive voltage may be applied to grid No.3 to reduce interference from "snivets" which may occur in both vhf and uhf television receivers. A typical value for this voltage is 30 volts.

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





Alternative Base
Bottom Exhaust



92CS-III27R3B

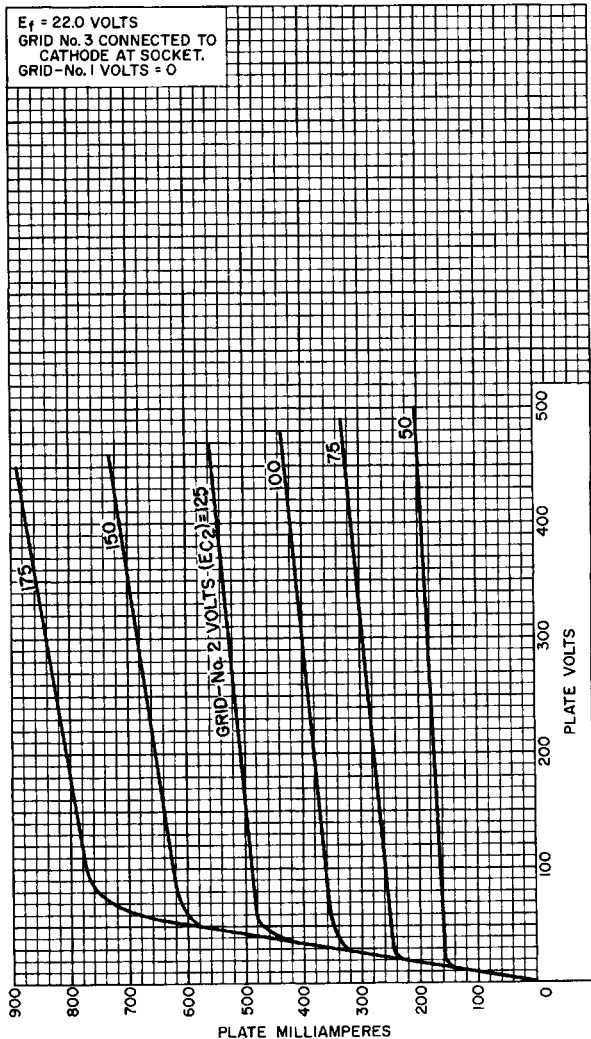
DIMENSIONS IN INCHES

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.



AVERAGE PLATE CHARACTERISTICS



92CM-12652

