

High-Mu Triode— Beam Power Tube

NOVAR TYPE

For Combined Vertical-Deflection Oscillator
and Amplifier Service in TV Receivers

Electrical:

Heater Characteristics and Ratings:

Current	0.450 ± 0.030	amp
Voltage (AC or DC) at heater amperes = 0.450	15.0	volts
Warm-up time (Average)	11	sec
Peak heater-cathode voltage (Each unit): Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200 ^a max.	volts

Direct Interelectrode Capacitances
(Approx.):^b

Triode Unit:

Grid to plate	0.44	pf
Input: G_T to (K_T, H)	15.0	pf
Output: P_T to (K_T, H)	7.0	pf

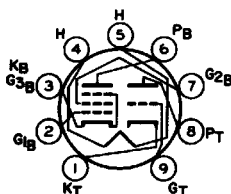
Beam Power Unit:

Grid No.1 to plate	0.048	pf
Input: G_{1p} to ($K_B + G_{3B}, G_{2B}, H$)	2.6	pf
Output: P_p to ($K_B + G_{3B}, G_{2B}, H$)	0.28	pf

Mechanical:

Operating Position	Any
Type of Cathodes	Coated Unipotential
Maximum Overall Length	3.110"
Maximum Seated Length	2.730"
Length, Base Seat to Bulb Top (Excluding tip).	2.210" to 2.390"
Diameter	1.062" to 1.188"
Bulb	T9
Socket	Cinch Mfg. Co. No.149 19 00 033, Industrial Electronics Hardware Corp. No.S0-0968-SL1, or equivalent
Base	Small Button Novar 9-Pin (JEDEC No.E9-75)
Basing Designation for BOTTOM VIEW	9QT

- Pin 1—Triode Cathode
- Pin 2—Beam Power Grid No.1
- Pin 3—Beam Power Cathode &
Grid No.3
- Pin 4—Heater
- Pin 5—Heater
- Pin 6—Beam Power Plate
- Pin 7—Beam Power Grid No.2
- Pin 8—Triode Plate
- Pin 9—Triode Grid



15KY8

Characteristics, Class A₁ Amplifier:

	Triode Unit		Beam Power Unit		
Plate Voltage	250	50	135	120	volts
Grid-No.2 Voltage	-	120	120	120	Connected volts to plate at socket
Grid-No.1 Voltage	-3	0	-10	-10	volts
Amplification Factor.	64	-	-	7	
Plate Resistance (Approx.)	40000	-	18000	-	ohms
Transconductance.	1600	-	8400	-	μmhos
Plate Current	1.4	170 ^c	39	-	ma
Grid-No.2 Current	-	20 ^c	3	-	ma
Grid-No.1 Voltage (Approx.) for plate ma. = 1.	-	-	-24	-	volts

VERTICAL-DEFLECTION OSCILLATOR

Triode Unit

Maximum Ratings, Absolute-Maximum Values:

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

DC Plate Voltage.	330 max.	volts
Peak Negative-Pulse Grid Voltage.	400 max.	volts
Cathode Current:		
Peak.	77 max.	ma
Average	22 max.	ma
Plate Dissipation	1.5 max.	watts

Maximum Circuit Values:

Grid-Circuit Resistance:		
For grid-resistor-bias operation.	2.2 max.	megohms

VERTICAL-DEFLECTION AMPLIFIER

Beam Power Unit

Maximum Ratings, Design-Maximum Values:

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

DC Plate Voltage	300 max.	volts
→ Peak Positive-Pulse Plate Voltage ^e	2000 abs.max.	volts
DC Grid-No.2 (Screen-Grid) Voltage	150 max.	volts
Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage	250 max.	volts
Cathode Current:		
Peak	200 max.	ma
→ Average.	70 max.	ma

→ Indicates a change.



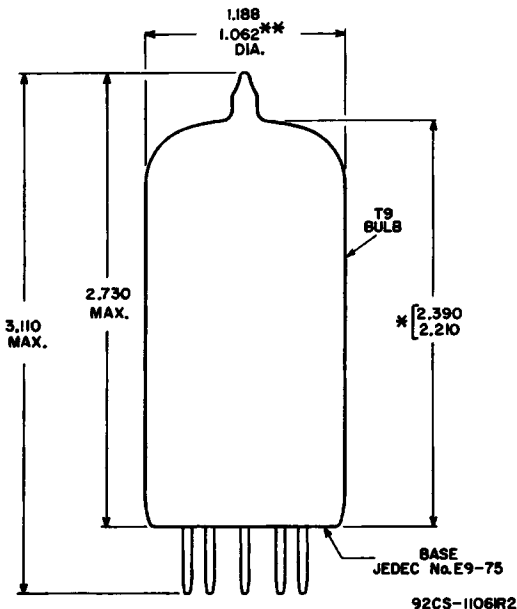
PLATE DISSIPATION	12 max.	watts
GRID-No.2 INPUT	1.9 max.	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For grid-resistor-bias operation. . . 2.2 max. megohms

- a The dc component must not exceed 100 volts.
- b without external shield.
- c These values can be measured by a method involving a recurrent wave form such that the plate dissipation and grid-No.2 input will be kept within ratings in order to prevent damage to the tube.
- d As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.
- e This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent on one vertical scanning cycle is 2.5 milliseconds.

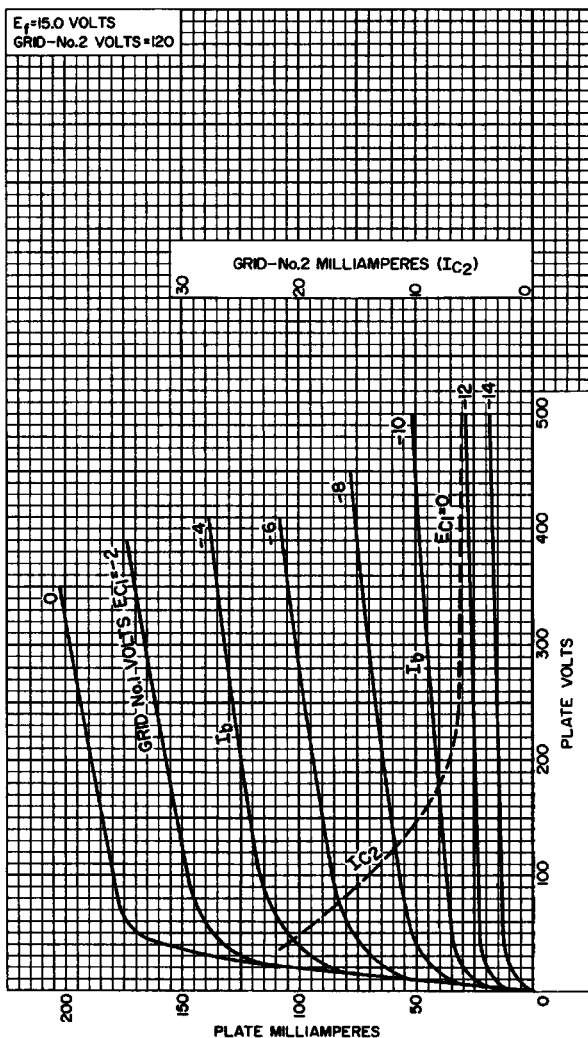


ALL DIMENSIONS IN INCHES

- ** APPLIES IN ZONE STARTING 0.375" FROM BASE SEAT.
- * MEASURED FROM BASE SEAT TO BULB-TOP LINE AS DETERMINED BY A RING GAUGE OF 0.600" INSIDE DIAMETER.

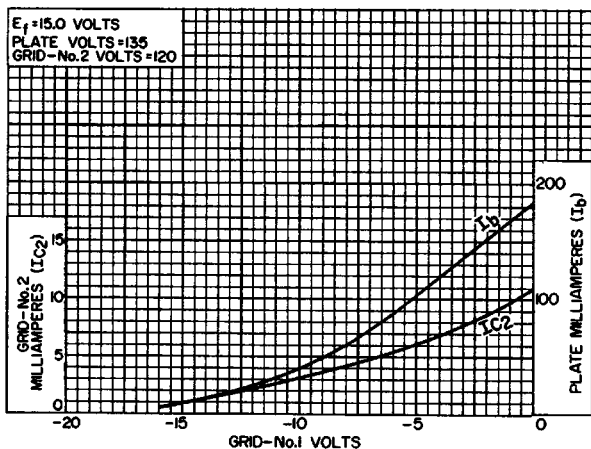


AVERAGE CHARACTERISTICS Beam Power Unit



92CM-11942

AVERAGE CHARACTERISTICS Beam Power Unit

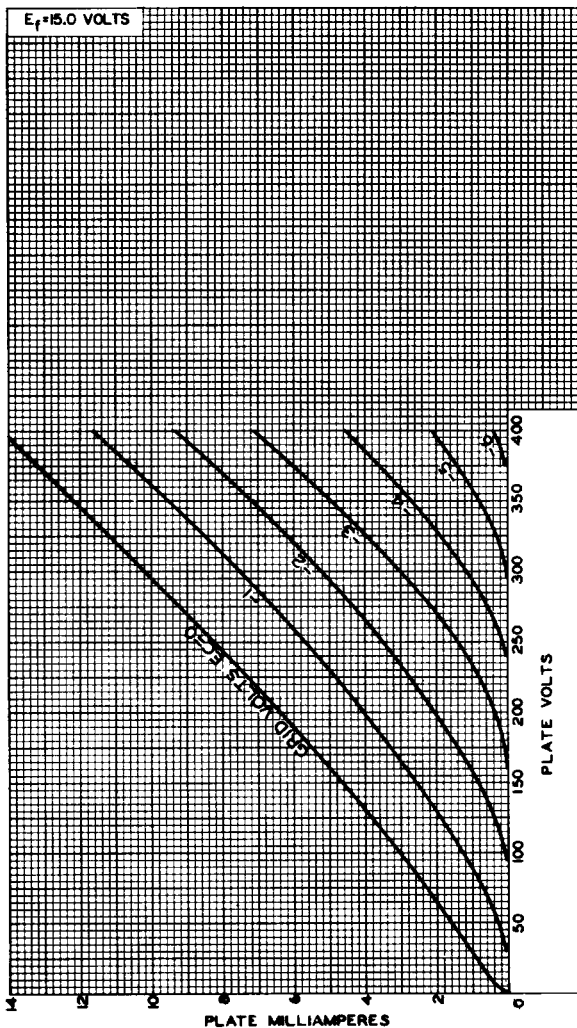


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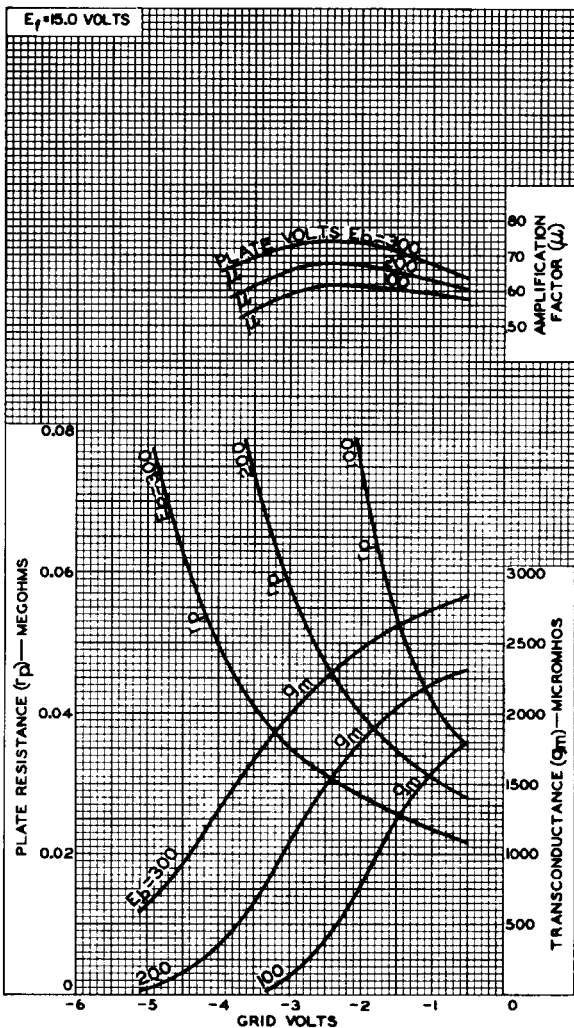
AVERAGE CHARACTERISTICS Triode Unit



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AVERAGE CHARACTERISTICS Triode Unit



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