



SUPI

OSCILLOGRAPH TUBE

ELECTROSTATIC FOCUS

ELECTROSTATIC DEFLECTION

General:

Heater, for Unipotential Cathode:

Voltage. $6.3 \pm 10\%$ ac or dc volts
Current. 0.6 amp

Direct Interelectrode Capacitances (Approx.):

Grid No.1 to All Other Electrodes. 8.0 μf
DJ1 to DJ2 2.5 μf
DJ3 to DJ4 2.5 μf
DJ1 to All Other Electrodes. 11.0 μf
DJ2 to All Other Electrodes. 8.0 μf
DJ3 to All Other Electrodes. 7.0 μf
DJ4 to All Other Electrodes. 8.0 μf

Phosphor (For Curves, see front of this Section) No.1

Fluorescence Green

Persistence. Medium

Focusing Method. Electrostatic

Deflection Method. Electrostatic

Overall Length $14\frac{3}{4}'' \pm \frac{3}{8}''$

Greatest Diameter of Bulb. $5\frac{1}{4}'' \pm \frac{3}{32}''$

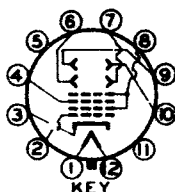
Minimum Useful Screen Diameter $4\frac{1}{2}''$

Mounting Position. Any

Base Small-Shell Duodecal 12-Pin

Basing Designation for BOTTOM VIEW 12E

Pin 1-Heater	Pin 8-Anode No.2, Grid No.2
Pin 2-Grid No.1	Pin 9-Deflecting Electrode DJ2
Pin 3-Cathode	Pin 10-Deflecting Electrode DJ1
Pin 4-Anode No.1	Pin 11-Internal Con. Do Not Use
Pin 5-Internal Con. Do Not Use	Pin 12-Heater
Pin 6-Deflecting Electrode DJ3	
Pin 7-Deflecting Electrode DJ4	



DJ₁ and DJ₂ are nearer the screen

DJ₃ and DJ₄ are nearer the base

With DJ₁ positive with respect to DJ₂, the spot is deflected toward pin 4. With DJ₃ positive with respect to DJ₄, the spot is deflected toward pin 1.

The angle between the trace produced by DJ₁ and DJ₂ and its intersection with the plane through the tube axis and pin 1 does not exceed 10°.

The angle between the trace produced by DJ₃ and DJ₄ and the trace produced by DJ₁ and DJ₂ is 90° ± 30°.

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OSCILLOGRAPH TUBE

Maximum Ratings, Design-Center Values:

ANODE-No.2 ■ VOLTAGE	2500 max.	volts
ANODE-No.1 VOLTAGE	1000 max.	volts
GRID-No.1 (CONTROL ELECTRODE) VOLTAGE:		
Negative bias value.	200 max.	volts
Positive bias value.	0 max.	volts
Peak positive value.	2 max.	volts
PEAK VOLTAGE BETWEEN ANODE No.2 AND ANY DEFLECTING ELECTRODE. . .	500 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	125 max.	volts
Heater positive with respect to cathode.	125 max.	volts

Equipment Design Ranges:

For any anode-No.2 voltage (E_{b2}) between 1000* and 2500 volts

Anode-No.1 Voltage . . .	17% to 32% of E_{b2}	. . . volts
Max. Grid-No.1 Voltage for Visual Cutoff	4.5% of E_{b2}	. . . volts
Anode-No.1 Current for Any Operating Condition	-15 to +10	. . microamp
Deflection Factors:		
DJ ₁ & DJ ₂	28 to 38.5	v dc/in./kv of E_{b2}
DJ ₃ & DJ ₄	23 to 31	v dc/in./kv of E_{b2}

Examples of Use of Design Ranges:

For anode-No.2 voltages of	<u>1000</u>	<u>2000</u>	volts
Anode-No.1 Voltage . . .	170 - 320	340 - 640	. . volts
Max. Grid-No.1 Voltage for Visual Cutoff	-45	-90	. . volts
Deflection Factors:			
DJ ₁ & DJ ₂	28 - 38.5	56 - 77	volts dc/in.
DJ ₃ & DJ ₄	23 - 31	46 - 62	volts dc/in.

Maximum Circuit Values:

Grid-No.1-Circuit Resistance	1.5 max.	megohms
Resistance in Any Deflecting Electrode Circuit [□] . . .	5.0 max.	megohms

* Recommended minimum value.

□ It is recommended that the deflecting-electrode-circuit resistances be approximately equal.

□ Anode No.2 and grid No.2, which are connected together within tube, are referred to herein as anode No.2.

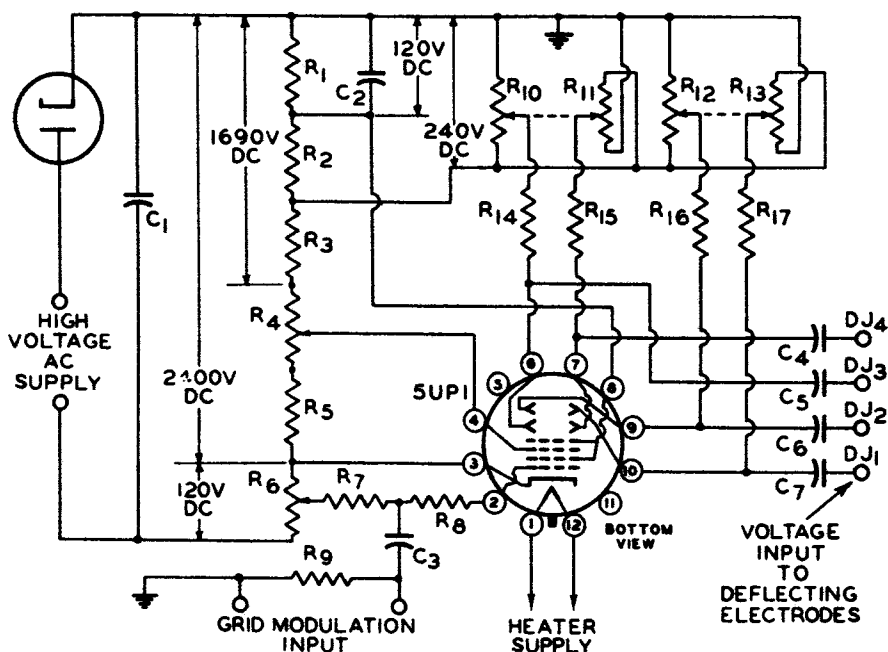


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TYPICAL CIRCUIT



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R1 R2: 2.5 Megohms, 0.5 Watt
 R3: 6 Megohms, 3 Watts
 R4: 2-Megohm Potentiometer
 R5: 1 Megohm, 0.5 Watt
 R6: 0.5-Megohm Potentiometer
 R7: 0.5-Megohm, 0.5 Watt
 R8: Not less than 2000 Ohms per
 volt of positive signal
 R9: 5-Megohms, 0.5 Watt

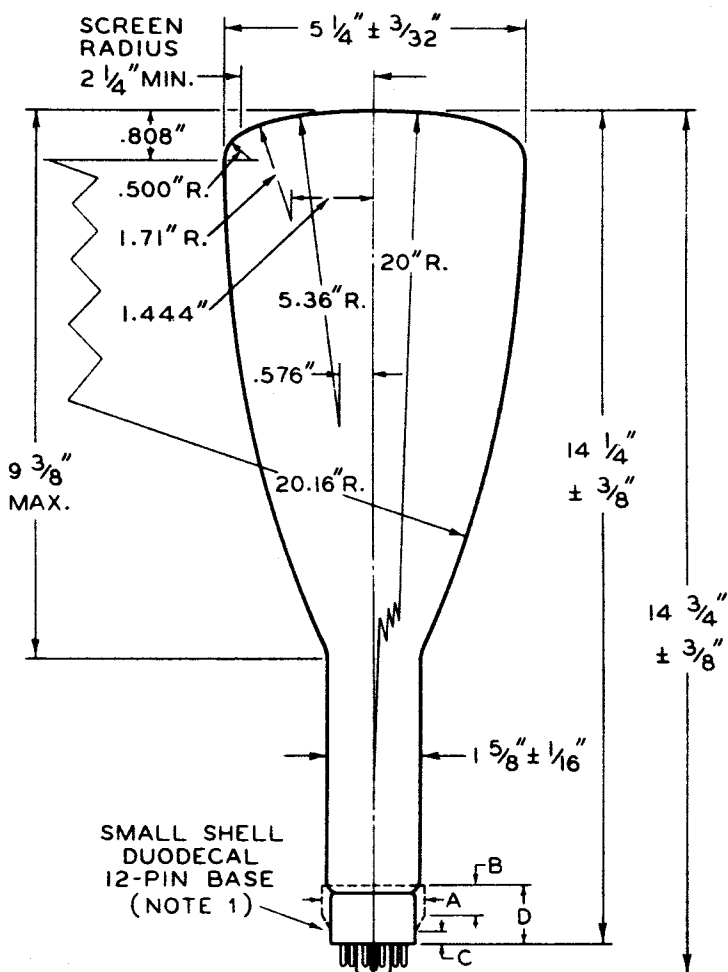
R10 - R11, R12 - R13: Dual Potentiometers, R10, R11, R12, R13:
 0.5 Megohm
 R14 R15 R16 R17: 2.2 Megohms,
 0.5 Watt
 C1: 0.1 μ f, 2500 Volts
 C2: 1 μ f, 200 Volts
 C3: 0.0001 μ f, 2500 Volts
 C4 C5 C6 C7: 0.1 μ f, 600 Volts

The license extended to the purchaser of tubes appears in the License Notice accompanying them. Information contained herein is furnished without assuming any obligations.

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5UP1 OSCILLOGRAPH TUBE



C OF BULB WILL NOT DEVIATE MORE THAN 2° IN ANY DIRECTION FROM THE PERPENDICULAR ERECTED AT THE CENTER OF BOTTOM OF THE BASE.

NOTE 1: THIS BASE MAY BE SUPERSEDED BY AN ALTERNATE BASE WHICH WILL FIT THE SAME SOCKET BUT WHICH WILL HAVE A FLARED SHELL INDICATED BY THE DASHED LINES AND DIMENSIONED APPROXIMATELY AS FOLLOWS:

A = 1.85" MAX., B = 0.500", C = 0.200" MIN., D = 0.925"

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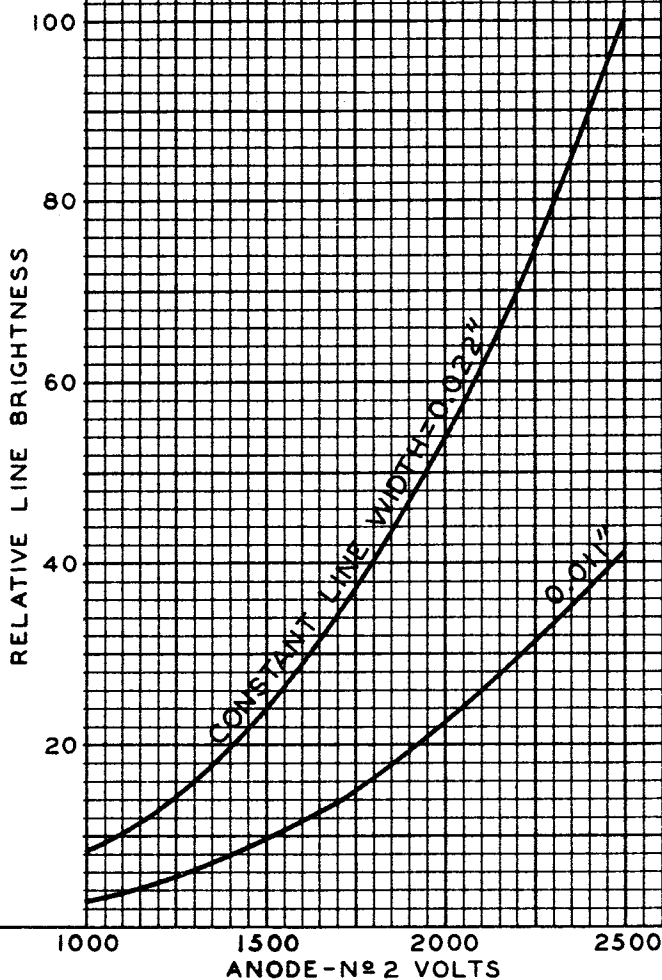


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AVERAGE CHARACTERISTICS

$E_f = 6.3$ VOLTS
ANODE-N $\approx$ 1 VOLTS ADJUSTED
FOR FOCUS



NOV. 7, 1946

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

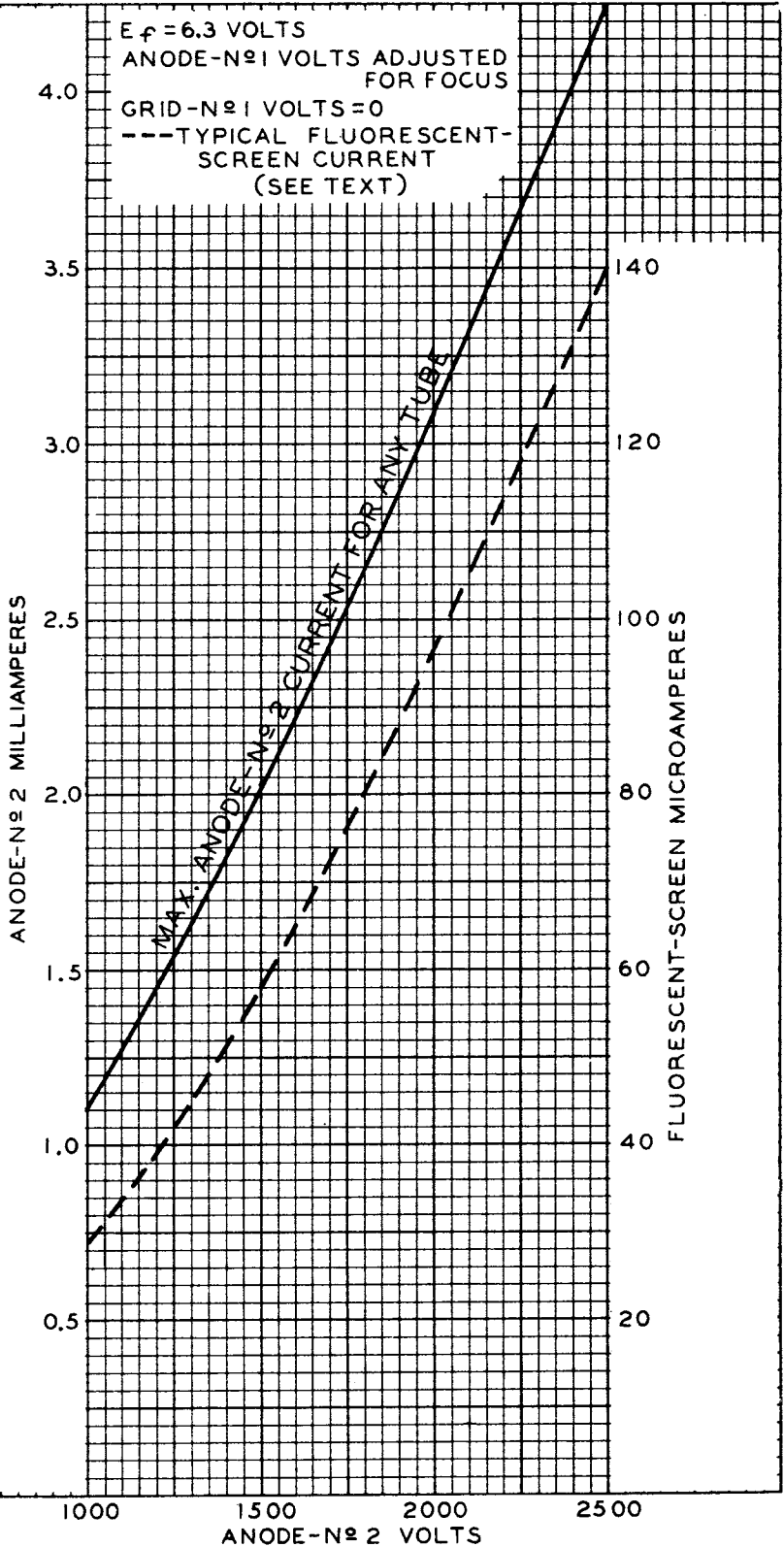
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CHARACTERISTICS



OCT. 21, 1949

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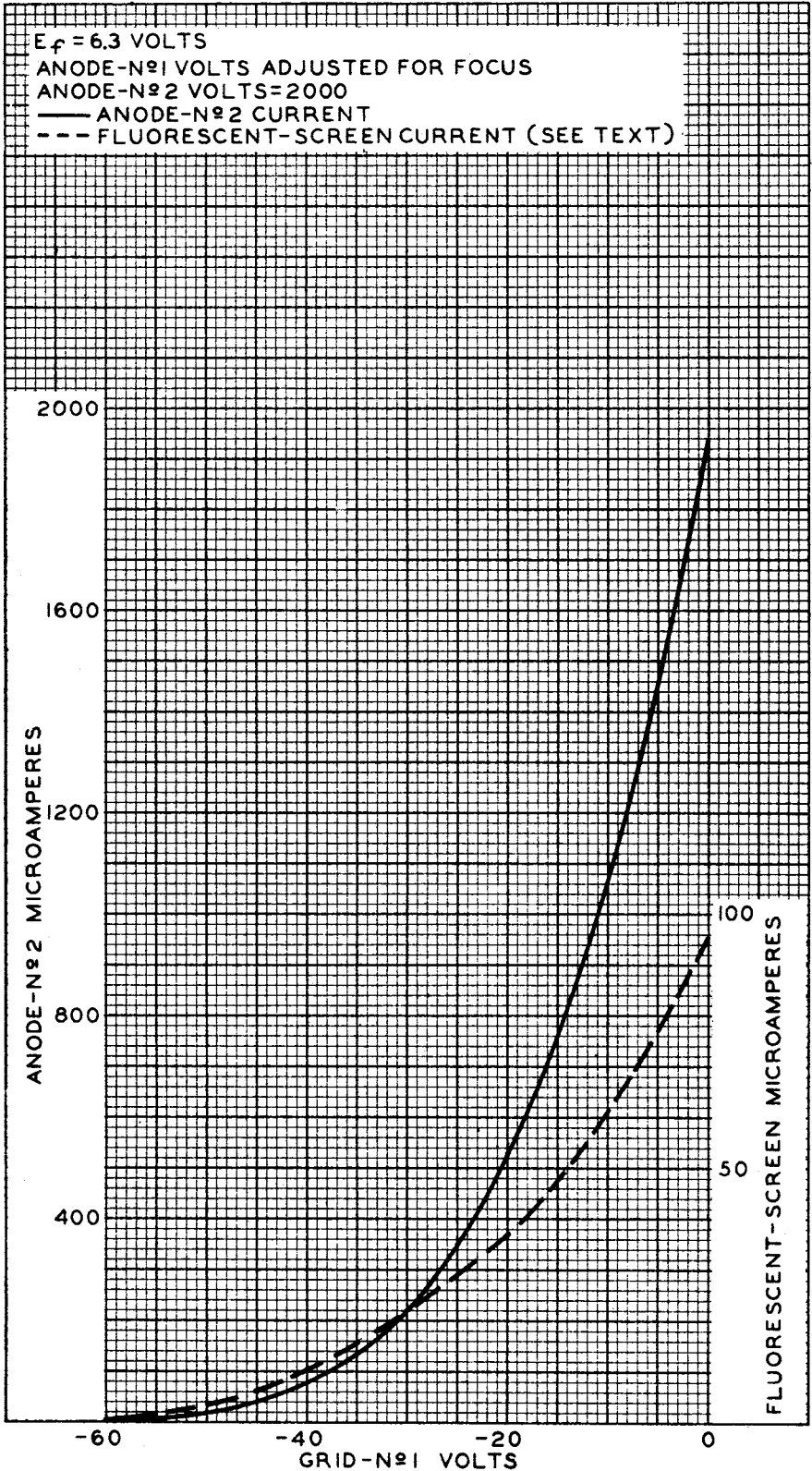
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AVERAGE CHARACTERISTICS



NOV. 11, 1946

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92CM-6810