



5U1

OSCILLOGRAPH TUBE

ELECTROSTATIC FOCUS

ELECTROSTATIC DEFLECTION

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General:

Heater, for Unipotential Cathode:

Voltage	6.3 ± 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 14-3/4" ± 3/8"

Greatest Diameter of Bulb. 5-1/4" ± 3/32"

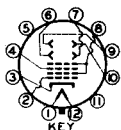
Minimum Useful Screen Diameter 4-1/2"

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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Maximum Ratings, Design-Center Values:

ANODE- <i>No. 2</i> [■] VOLTAGE	2500 max.	volts
ANODE- <i>No. 1</i> VOLTAGE	1000 max.	volts
GRID- <i>No. 1</i> (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 <i>No. 2</i> 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- <i>No. 1</i> Voltage . . .	17% to 32% of E_{b2}	. . . volts
Max. Grid- <i>No. 1</i> Voltage for Visual Cutoff	4.5% of E_{b2}	. . . volts
Anode- <i>No. 1</i> 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- <i>No. 1</i> Voltage . . .	170 - 320	340 - 640	. . volts
Max. Grid- <i>No. 1</i> 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- <i>No. 1</i> -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*.

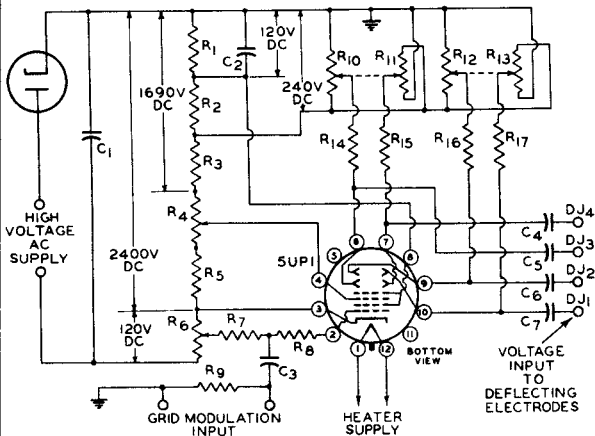


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TYPICAL CIRCUIT



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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

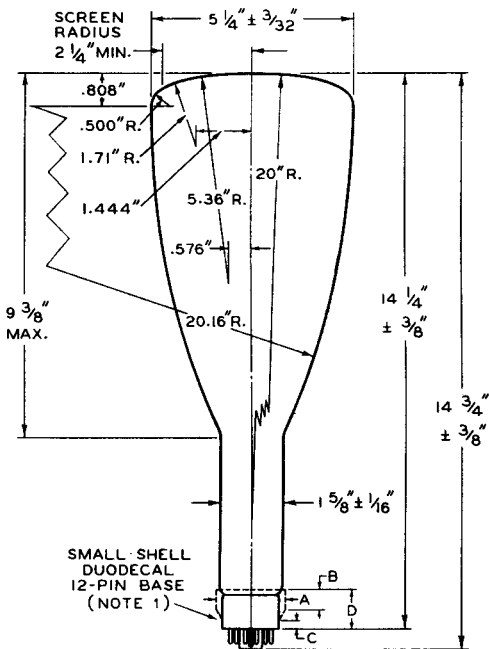
- R10 - R11, R12 - R13: Dual Potentiometers, R10, R11, R12, R13: 0.5 Megohm
- R14 R15 R16 R17: 2.2 Megohms, 0.5 Watt
- C1: 0.1 μ f, 2500 Volts
- C2: 1 μ f, 200 Volts
- C3: 0.0001 μ f, 2500 Volts
- C4 C5 C6 C7: 0.1 μ f, 600 Volts

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

SUP 1



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∅ 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".

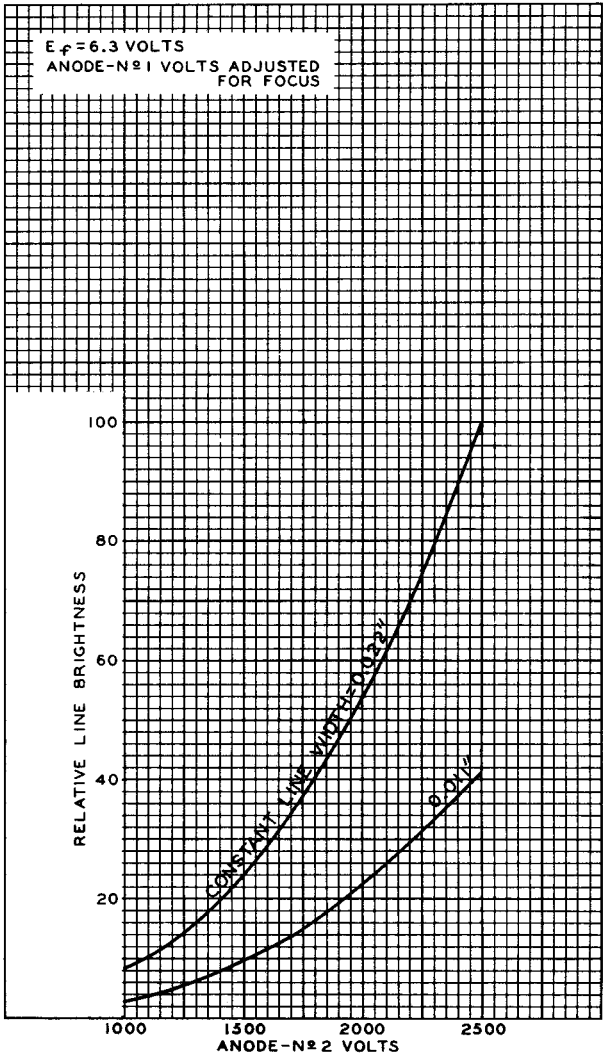
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AVERAGE CHARACTERISTICS



NOV. 7, 1946

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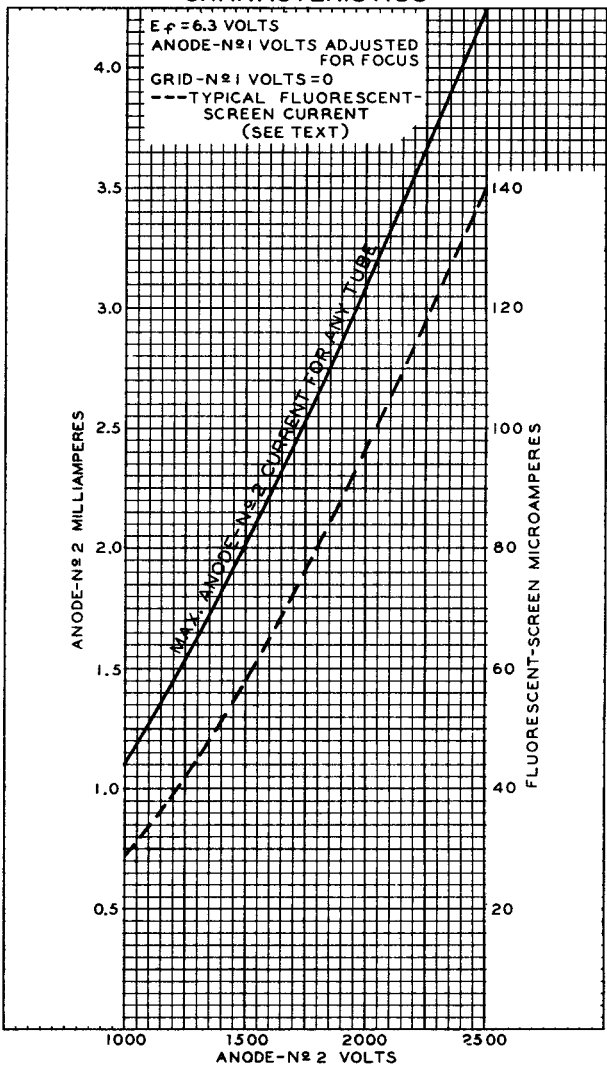
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OCT. 21, 1949

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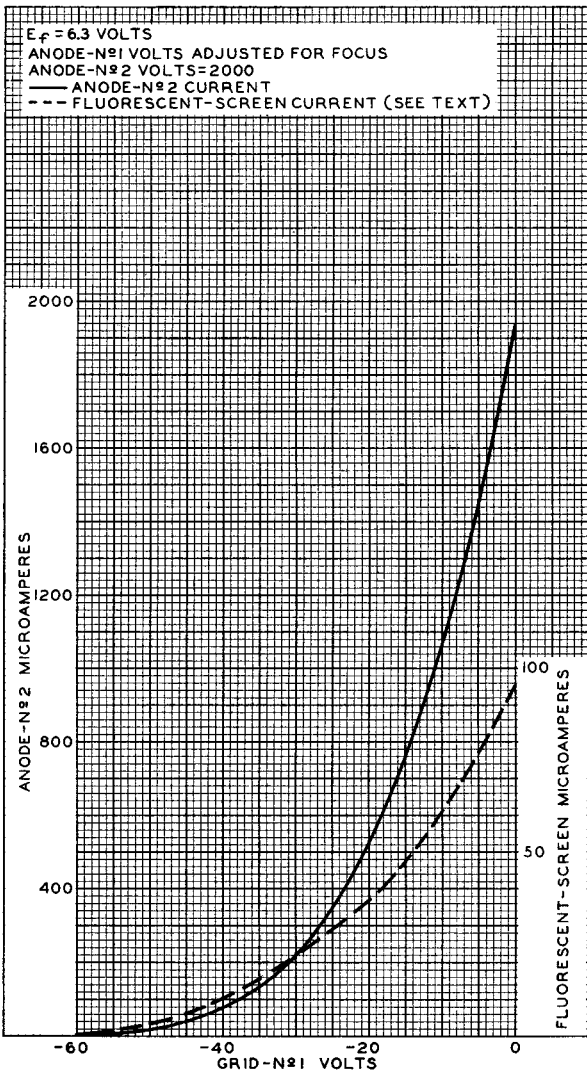
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