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OSCILLOGRAPH TUBE

ELECTROSTATIC FOCUS

ELECTROSTATIC DEFLECTION

DATA

General:

Heater, for Unipotential Cathode:

Voltage. 6.3 ac or dc volts

Current. 0.6 amp

Direct Interelectrode Capacitances (Approx.):

Grid No.1 to All Other Electrodes. 6 μf DJ₁ to DJ₂ 3 μf DJ₃ to DJ₄ 2 μf DJ₁ to All Other Electrodes. 9 μf DJ₂ to All Other Electrodes. 9 μf DJ₃ to All Other Electrodes. 7 μf DJ₄ to All Other Electrodes. 7 μf

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

Fluorescence and Phosphorescence Green

Persistence of Phosphorescence Medium

Focusing Method. Electrostatic

Deflection Method. Electrostatic

Deflecting-Electrode Arrangement See Outline Drawing

Overall Length 14-1/2" $\pm$ 3/8"Greatest Diameter of Bulb. 7" $\pm$ 1/8"

Minimum Useful Screen Diameter 6"

Mounting Position. Any

Base Medium-Shell Diheptal 12-Pin

Basing Designation for BOTTOM VIEW 14G1

Pin 1-Heater

Pin 2-Cathode

Pin 3-Grid No.1

Pin 4-No

Connection

Pin 5-Anode No.1

Pin 7-Deflecting

Electrode

DJ₃

Pin 8-Deflecting

Electrode

DJ₄

Pin 9-Anode No.2,

Grid No.2

Pin 10-Deflecting

Electrode

DJ₂

Pin 11-Deflecting

Electrode

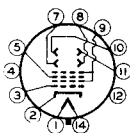
DJ₁

Pin 12-Internal

Connection-

Do Not Use

Pin 14-Heater

*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 5. With DJ₃ positive with respect to DJ₄, the spot is deflected toward pin 2.

The plane through the tube axis and pin 5 may vary from the trace produced by DJ₁ and DJ₂ by an angular tolerance (measured about the tube axis) of 10°. Angle between DJ₁ - DJ₂ trace and DJ₃ - DJ₄ trace is 90° $\pm$ 3°.



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Maximum Ratings, Design-Center Values:

ANODE-No.2* VOLTAGE [□]	6000 max.	volts
ANODE-No.1 VOLTAGE	2800 max.	volts
GRID-No.1 VOLTAGE:		
Negative bias value.	200 max.	volts
Positive bias value.	0 max.	volts
Positive peak value.	2 max.	volts
PEAK VOLTAGE BETWEEN ANODE No.2 AND ANY DEFLECTING ELECTRODE . . .	750 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 6000 volts

Anode-No.1 Voltage	27% to 40% of E_{b2}	volts
Max. Grid-No.1 Voltage for Visual Cutoff . .	2.8% of E_{b2}	volts
Anode-No.1 Current for any Operating Condition.	-15 to +10	microamp
Deflection Factors:		
DJ1 & DJ2.	31 to 41 v dc/in./kv of E_{b2}	
DJ3 & DJ4.	25 to 34 v dc/in./kv of E_{b2}	
Spot Position.	#	

Examples of Use of Design Ranges:

For anode-No.2 voltage of	2000	4000	volts
Anode-No.1 Voltage	540-800	1080-1600	volts
Max. Grid-No.1 Voltage for Visual Cutoff . .	-56	-112	volts
Deflection Factors:			
DJ1 & DJ2.	62-82	124-164	volts dc/in.
DJ3 & DJ4.	50-68	100-136	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

Minimum Circuit Values:

The power supply should be of the limited-energy type with inherent regulation to limit the continuous short-circuit current to 5 milliamperes. If the supply permits the instantaneous short-circuit current to exceed 1 ampere, or is capable of storing more than 250 microcoulombs, the effective resistance in circuit between indicated electrode and the output capacitor should be as follows:

Grid-No.1-Circuit Resistance	220 min.	ohms
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●, □, *, #, ○: See next page.



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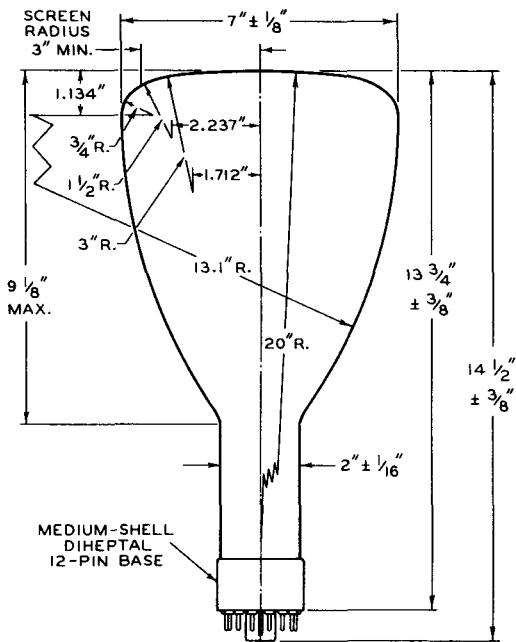
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Anode-No.1-Circuit Resistance. 3000 min. ohms
 Anode-No.2-Circuit Resistance. 6800 min. ohms

The resistors used should be capable of withstanding the applied voltage.

- Anode No.2 and grid No.2, which are connected together within tube, are referred to herein as anode No.2.
- For operation at or near 0 volts on grid No.1 and with 4000 to 6000 volts on anode No.2, it is essential that the effective resistance of the anode-No.2 supply be adequate to limit the anode-No.2 input power to 6 watts.
- * Brilliance and definition decrease with decreasing anode-No.2 voltage. A value as low as 1000 volts is recommended only for low-velocity deflection and low ambient-light levels.
- # The center of the undeflected, focused spot will fall within a circle having a 10-mm radius concentric with the center of the tube face.
- It is recommended that the deflecting-electrode-circuit resistances be approximately equal.



92CM-6667

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

JAN. 1, 1951

TUBE DEPARTMENT

TENTATIVE DATA 2

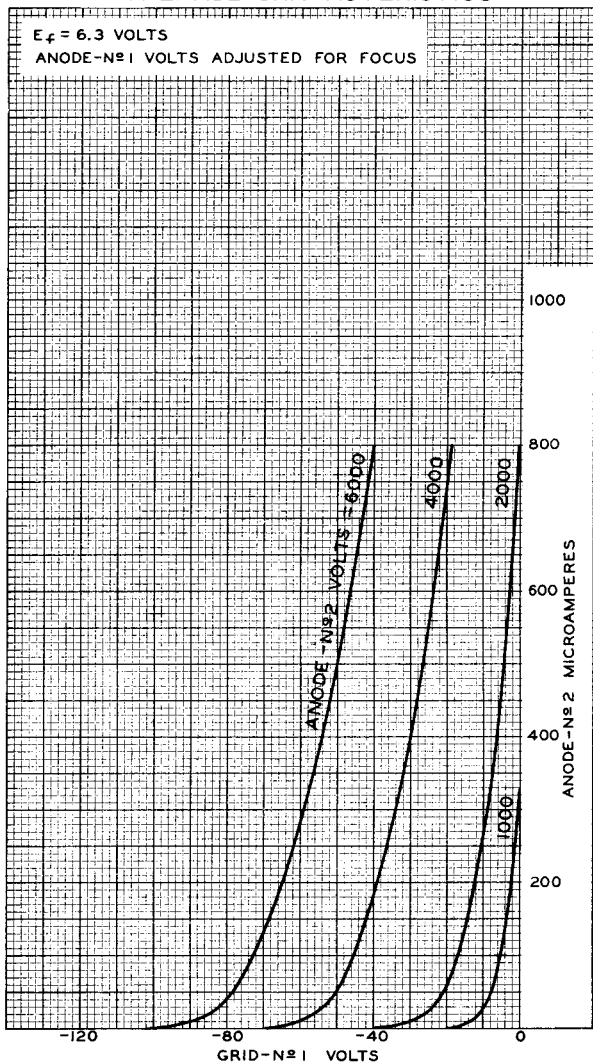
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AVERAGE CHARACTERISTICS



AUGUST 4, 1950

TUBE DEPARTMENT

92CM-7521

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