

March 21, 1945



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HIGH-VACUUM CATHODE-RAY TUBE

General:

Heater, for Unipotential Cathode:

Voltage 2.5 ± 10% ac or dc volts
 Current 2.1 amp.

Direct Interelectrode Capacitances:

Grid to All Other Electrodes 9.0 μf
 DJ₁ to All Other Electrodes 8.5 μf
 DJ₃ to All Other Electrodes 6.5 μf

Phosphor No. 5
 Fluorescence Bluish

Persistence Brightness negligible in
 less than 30 microseconds

Focusing Method Electrostatic

Deflection Method Electrostatic

Overall Length 11-1/2" ± 3/8"

Greatest Diameter of Bulb 3" ± 1/16"

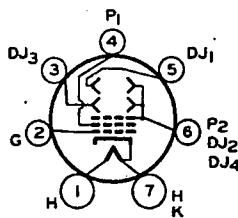
Minimum Useful Screen Diameter 2-3/4"

Mounting Position Any

Base Medium 7-Pin

Basing Designation for BOTTOM VIEW 7AN

- Pin 1 - Heater
- Pin 2 - Grid
- Pin 3 - Deflecting Electrode DJ₃
- Pin 4 - Anode No. 1
- Pin 5 - Deflecting Electrode DJ₁
- Pin 6 - Anode No. 2, Deflecting Electrodes DJ₂ & DJ₄
- Pin 7 - Heater, Cathode



*DJ₁ and DJ₂ are nearer the screen
 DJ₃ and DJ₄ are nearer the base*

With DJ₄ (pin 6) positive with respect to DJ₃ (pin 3), the spot is deflected approximately toward pin 6. With DJ₂ (pin 6) positive with respect to DJ₁ (pin 5), the spot is deflected approximately toward pin 1.

The angle between the trace produced by DJ₃ and DJ₄ and its intersection with the plane through the tube axis and pin 6 does not exceed 10°.

The angle between the trace produced by DJ₃ and DJ₄ and the trace produced by DJ₁ and DJ₂ is 90° ± 3°.

Maximum Ratings, Absolute Values:

ANODE No. 2 VOLTAGE 1650 max. volts
 ANODE No. 1 VOLTAGE 1100 max. volts
 GRID (CONTROL ELECTRODE) VOLTAGE RANGE { 0 (never +)
 to -125 max. volts
 PEAK VOLTAGE BETWEEN ANODE No. 2 and
 ANY DEFLECTING ELECTRODE 660 max. volts



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(continued from preceding page)

Typical Operation and Characteristics:

Anode No.2 Voltage*	1000	1500 volts
Anode No.1 Voltage for Focus at 75% of Grid Voltage for Cutoff*	285	430	approx. volts
Grid Voltage for Visual Cutoff# . . .	-33	-50 volts
Max. Anode No.1 Current**	—	1330	microamp.
Deflection Sensitivity:			
DJ ₁ and DJ ₂	0.33	0.22	. . . mm/v dc
DJ ₃ and DJ ₄	0.35	0.23	. . . mm/v dc
Deflection Factor:▲			
DJ ₁ and DJ ₂	76	114	. v dc/in.
DJ ₃ and DJ ₄	73	109	. v dc/in.

* Brilliance and definition decrease with decreasing anode No.2 voltage. In general, anode No.2 voltage should not be less than 1000 volts.

• Individual tubes may require between +25% and -30% of the values shown with grid voltages between zero and cutoff.

Visual extinction of stationary focused spot. For cutoff, supply should be adjustable to ±50% of these values.

▲ Individual tubes may vary from these values by ±20%.

** Under conditions with anode No.2 volts = 1500, anode No.1 volts adjusted for focus, and grid volts = 0.

Spot Position:

The undeflected focused spot will fall within a 15-mm square centered at the geometric center of the tube face and having one side parallel to the trace produced by DJ₁ and DJ₂. Suitable test conditions are: anode No.2 voltage, 1500 volts; anode No.1 voltage, adjusted for focus; deflecting electrode resistors, 1 megohm each, connected to anode No.2; the tube shielded from all extraneous fields. To avoid damage to the tube, make the test with the grid voltage near cutoff.

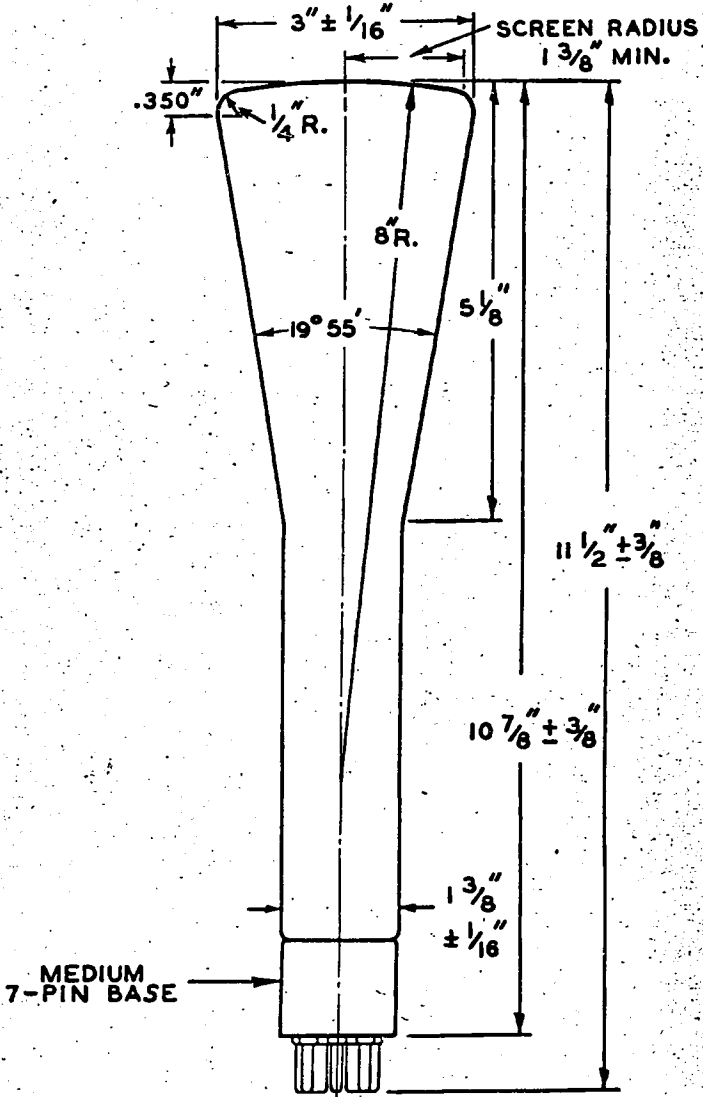
Maximum Circuit Values:

Grid-Circuit Impedance.	1.5 max. megohms
Impedance of Any Deflecting-Electrode Circuit at Heater-Supply Frequency	1.0 max. megohm
Resistance in Any Deflecting- Electrode Circuit	5.0 max. megohms



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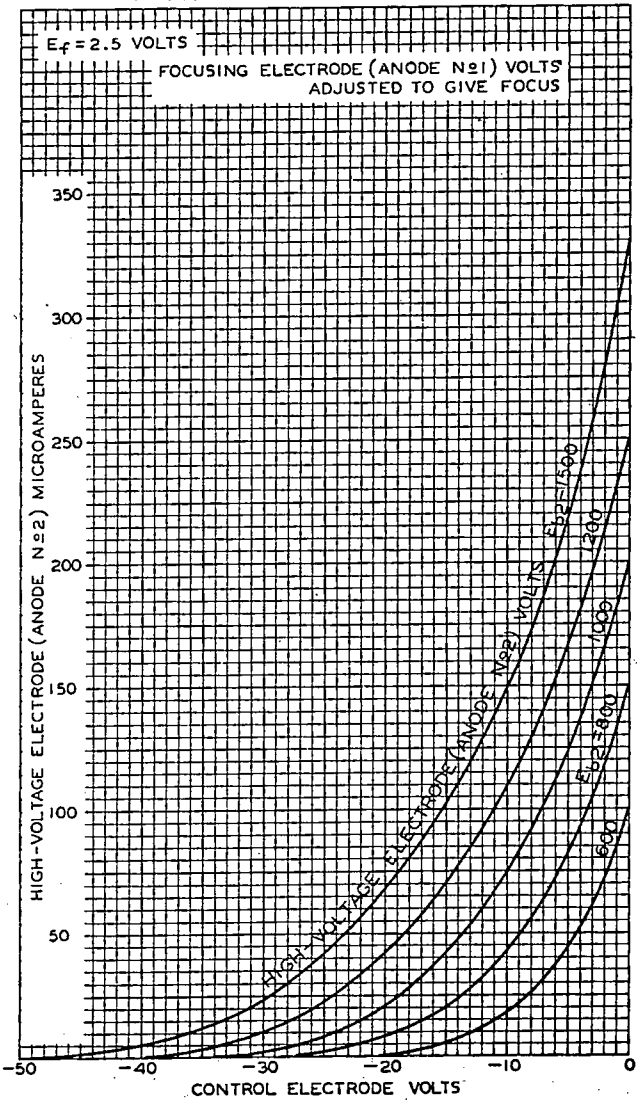
☉ OF BULB WILL NOT DEVIATE MORE THAN 2° IN ANY DIRECTION FROM PERPENDICULAR ERECTED AT CENTER OF THE BOTTOM OF THE BASE.

92CH-4284R7



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AVERAGE CHARACTERISTICS



92C-5415R4