

March 21, 1945



908

HIGH-VACUUM CATHODE-RAY TUBE

General:

Heater, for Unipotential Cathode:

Voltage. 2.5 $\pm$ 10% ac or dc volts

Current. 2.1 amp.

Direct Interelectrode Capacitances:

Grid to All Other Electrodes. 9.0 μ fDJ₁ to All Other Electrodes. 8.5 μ fDJ₃ to All Other Electrodes. 6.5 μ f

Phosphor. No. 5

Fluorescence. Bluish

Persistence. Brightness negligible in
less than 30 microseconds

Focusing Method. Electrostatic

Deflection Method. Electrostatic

Overall Length. 11-1/2" $\pm$ 3/8"Greatest Diameter of Bulb. 3" $\pm$ 1/16"

Minimum Useful Screen Diameter. 2-3/4"

Mounting Position. Any

Base. Medium 7-Pin

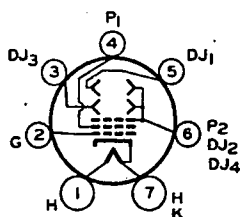
Basing Designation for BOTTOM VIEW. 7AN

Pin 1-Heater

Pin 2-Grid

Pin 3-Deflecting
Electrode DJ₃

Pin 4-Anode No.1

Pin 5-Deflecting
Electrode DJ₁Pin 6-Anode No.2,
Deflecting
ElectrodesDJ₂ & 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° $\pm$ 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. voltsPEAK VOLTAGE BETWEEN ANODE No.2 and
ANY DEFLECTING ELECTRODE 660 max. volts



908

HIGH-VACUUM CATHODE-RAY TUBE

(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 $\pm 50\%$ of these values.

▲ Individual tubes may vary from these values by $\pm 20\%$.

** 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.

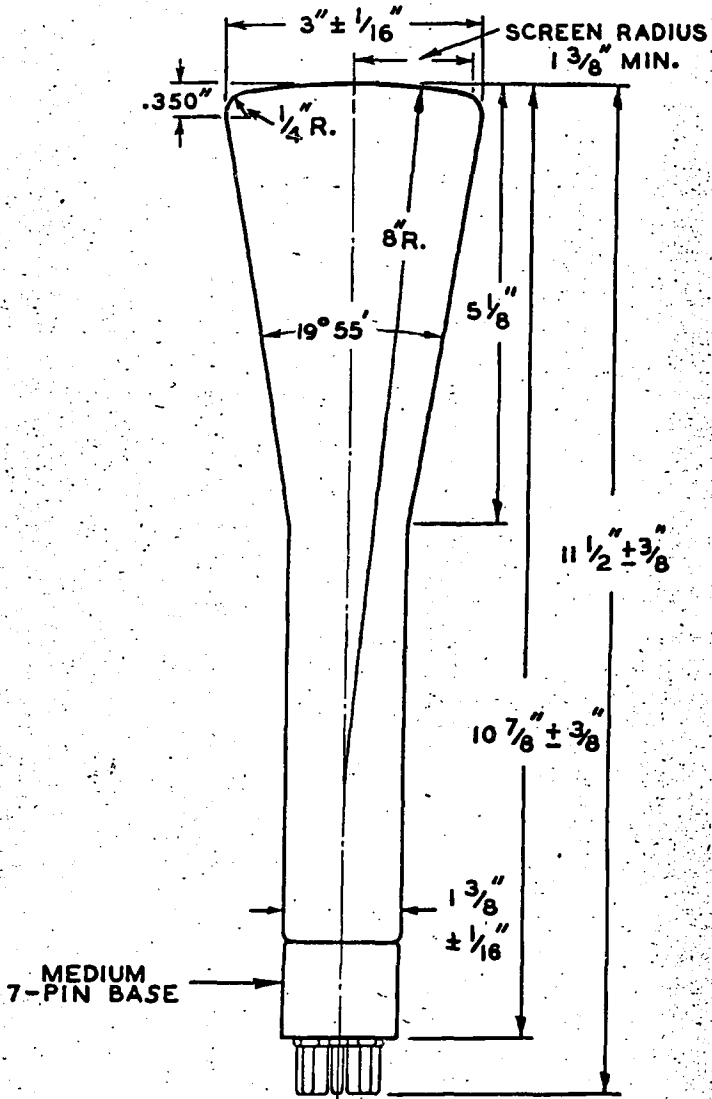
Maximum Circuit Values:

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



908

HIGH-VACUUM CATHODE-RAY TUBE



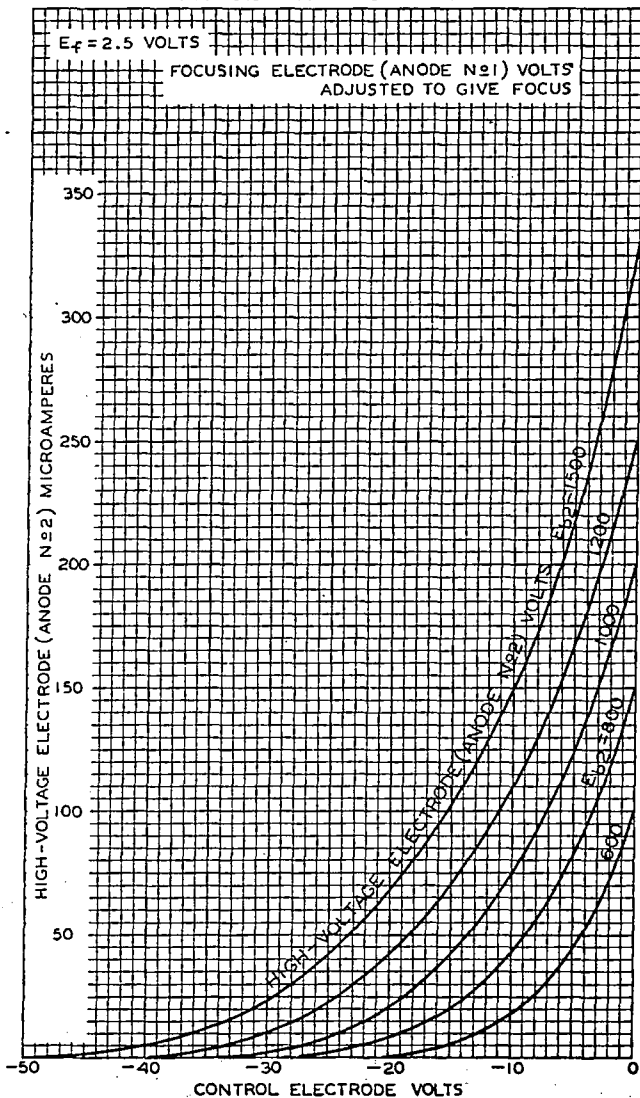
CL OF BULB WILL NOT DEVIATE MORE THAN 2° IN ANY DIRECTION FROM PERPENDICULAR ERECTED AT CENTER OF THE BOTTOM OF THE BASE.

92CM-4284R7



908

AVERAGE CHARACTERISTICS



92C-5415R4