

sponsor:
General Electric Co.

RMA Release No. 380
June 15, 1944

CATHODE-RAY TUBE

Type 12GP7

PHYSICAL CHARACTERISTICS

		Min	Max	
Focusing Method				Electrostatic
Deflecting Method				Electrostatic
Phosphor				P7
Direct Interelectrode Capacitances				
Cathode to all other electrodes		6.5	10	uuf
Grid No. 1 all other electrodes		8.5	11.5	uuf
Deflecting electrode D1 to deflecting electrode D2		1.5	5	uuf
" " D3 " " " D4		1.5	5	uuf
" " D1 " all other electrodes		5	13	uuf
" " D3 " " " "		5	13	uuf
" " D1 " " " " except D2		5	10	uuf
" " D2 " " " " " D1		5	10	uuf
" " D3 " " " " " D4		3	9	uuf
" " D4 " " " " " D3		3	9	uuf
Overall Length		22 ± 1/2		Inches
Greatest Diameter of Bulb		12 ± 3/16		Inches
Minimum Usable Screen Diameter		10		Inches
Base		Diheptal		12-Pin
Base Alignment				
D1-D2 trace aligns with Pin No. 5 and tube axis		± 10 degrees		
Angle between traces is 90 degrees		± 4 degrees		
Positive voltage on D1 (Pin No. 11) deflects beam approximately toward		Pin No. 5		
Positive voltage on D3 (Pin No. 7) deflects beam approximately toward		Pin No. 2		

Basing RMA Designation - 14B

Bulb Contact	Medium Metal Cap
Bulb Contact Alignment	
Anode No. 3 contact aligns with D1-D2 trace	± 10 degrees
Spot Center*	35 mm Square

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

	<u>Typical Operation</u>	<u>Maximum Ratings</u>
Heater Voltage ∇	6.3	Volts
Heater Current	0.6	Amp

	<u>Typical Operation</u>				<u>Maximum Ratings</u>
	857 #	857 #	1143 #	1143	+ 25% # -30%
Anode No. 1 (Focusing Electrode) Voltage	857 #	857 #	1143 #	1143	2200 Volts
Anode No. 2 (High Voltage Electrode) Voltage	3000	3000	4000	4000	4400 Volts
Anode No. 3 (Supplementary High Voltage Electrode) Voltage	3000	6000	4000	6000	6600 Volts
Grid No. 1 (Control Electrode) Voltage	-98 ¶	-98 ¶	-130 ¶	-130 ¶	±50% ¶ Never Positive
Peak Voltage Between Anode No. 2 and Any Deflecting Electrode ⊕					1100 Volts
D-c Heater Cathode Potential §					-250 Volts
Impedance of Any Deflecting Electrode Circuit at Heater Supply Frequency					1.0 Megohms
Grid Circuit Resistance					1.5 Megohms
Deflection Factor					
Electrodes D1 and D2	73	89	97	108	±20% Volts D-c/in
Electrodes D3 and D4	68	83	91	101	±20% Volts D-c/in

* The undeflected focused spot will fall within a square of the given size centered at the geometric center of the tube face and having one side parallel to the trace produced by D1 and D2.

∕ Heater voltage and heater current allowable variation ±10%.

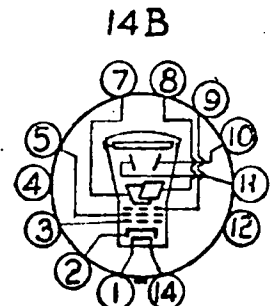
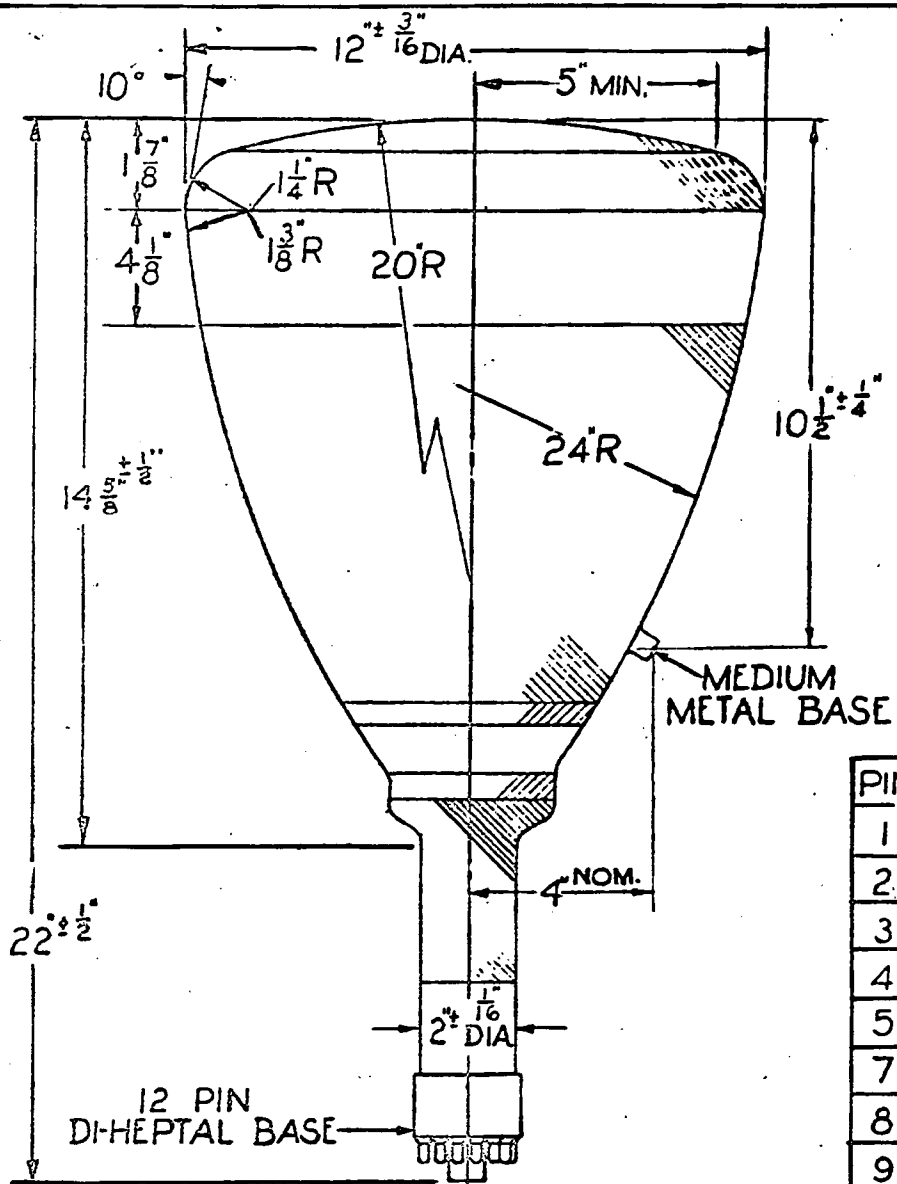
⊕ Symmetrical deflection voltage must be used.

§ With heater negative. Cathode should be tied to midtap or to one side of heater supply.

Nominal voltage taken at 75% of grid voltage for cutoff. Tolerances refer to variations of focusing voltage with grid voltage between 0 and cutoff.

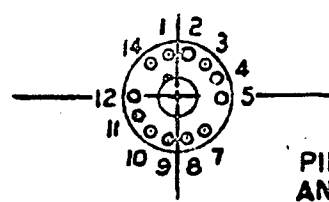
¶ Cutoff voltage which is voltage necessary for visual extinction of a stationary focused spot.

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BOTTOM VIEW OF SOCKET CONNECTION

PIN	CONNECTIONS
1	HEATER
2	CATHODE
3	GRID
4	INTERNAL CONNECTION
5	*1 ANODE
7	DEFLECTING ELECTRODE D3
8	DEFLECTING ELECTRODE D4
9	*2 ANODE
10	DEFLECTING ELECTRODE D2
11	DEFLECTING ELECTRODE D1
12	INTERNAL CONNECTION
14	HEATER



PIN NO.5 ALIGNS WITH TRACE ID2 WITHIN $\pm 10^\circ$
ANODE TERMINAL ALIGNS WITH ID2
TRACE WITHIN $\pm 10^\circ$

OUTLINE
12GP7 CATHODE-RAY TUBE