



RADIO MANUFACTURERS ASSOCIATION
ENGINEERING DEPARTMENT

sponsor:
Research Enterprises, Ltd.

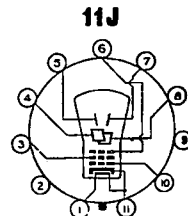
TYPE 12HPX 1

Registration No. 364

February 15, 1944

Focusing Method
Deflection Method
Phosphor
Overall Length
Diameter of Bulb
Bulb Type
Base
Basing, RMA designation
Base Alignment

Electrostatic
Electrostatic
P1
23½" ± 3/8
12" ± 1/4
J 96 C 1
11 Pin Magnal
11J



D₁ - D₂ trace aligns with pin #8 and axis ± 10°
Angle between traces, 90° ± 4°
Positive voltage on D₂ deflects beam toward pin #8
Positive voltage on D₃ deflects beam toward pin #11

Spot centering¹. within 45 m.m. square.

Direct Interelectrode Capacitances (Maximum)

Control grid to all other electrodes	12 mmf.
Deflecting Plate D ₁ to Deflecting Plate D ₂	3 mmf.
Deflecting Plate D ₃ to Deflecting Plate D ₄	3 mmf.
D ₁ to all other electrodes	11 mmf.
D ₃ to all other electrodes	11 mmf.
D ₁ to all other electrodes except D ₂	9 mmf.
D ₂ to all other electrodes except D ₁	9 mmf.
D ₃ to all other electrodes except D ₄	9 mmf.
D ₄ to all other electrodes except D ₃	9 mmf.

Electrical Characteristics

Ratings

Heater Voltage	6.3 volts
Heater Current	.6 ± 10% amps.
Anode #2 (High Voltage Electrode)	5500 volts max.
Anode #1 (Focusing Electrode)	1500 volts max.
Grid Voltage (Control Electrode)	Never positive
Peak Voltage between Anode #2 and any deflection plate	1000 volts max.
Resistance of circuit to grid	1.5 megohms max.
Impedance of any deflecting electrode circuit at heater supply frequency	1.0 megohms max.

Typical Operation

Heater Voltage	6.3 volts
Anode #2 Voltage	5000 volts
Anode #1 Voltage for focus	1150 + 25% - 30% volts $\pm$
Anode #1 current at $E_{c1} = 0$ and E_{b1} adjusted for focus	3000 ma. max.
Grid Voltage for cut-off ² .	- 90 $\pm$ 50 volts

$\pm$ Required for focus when E_{c1} , is 75% of cut-off value.

Deflection Factor

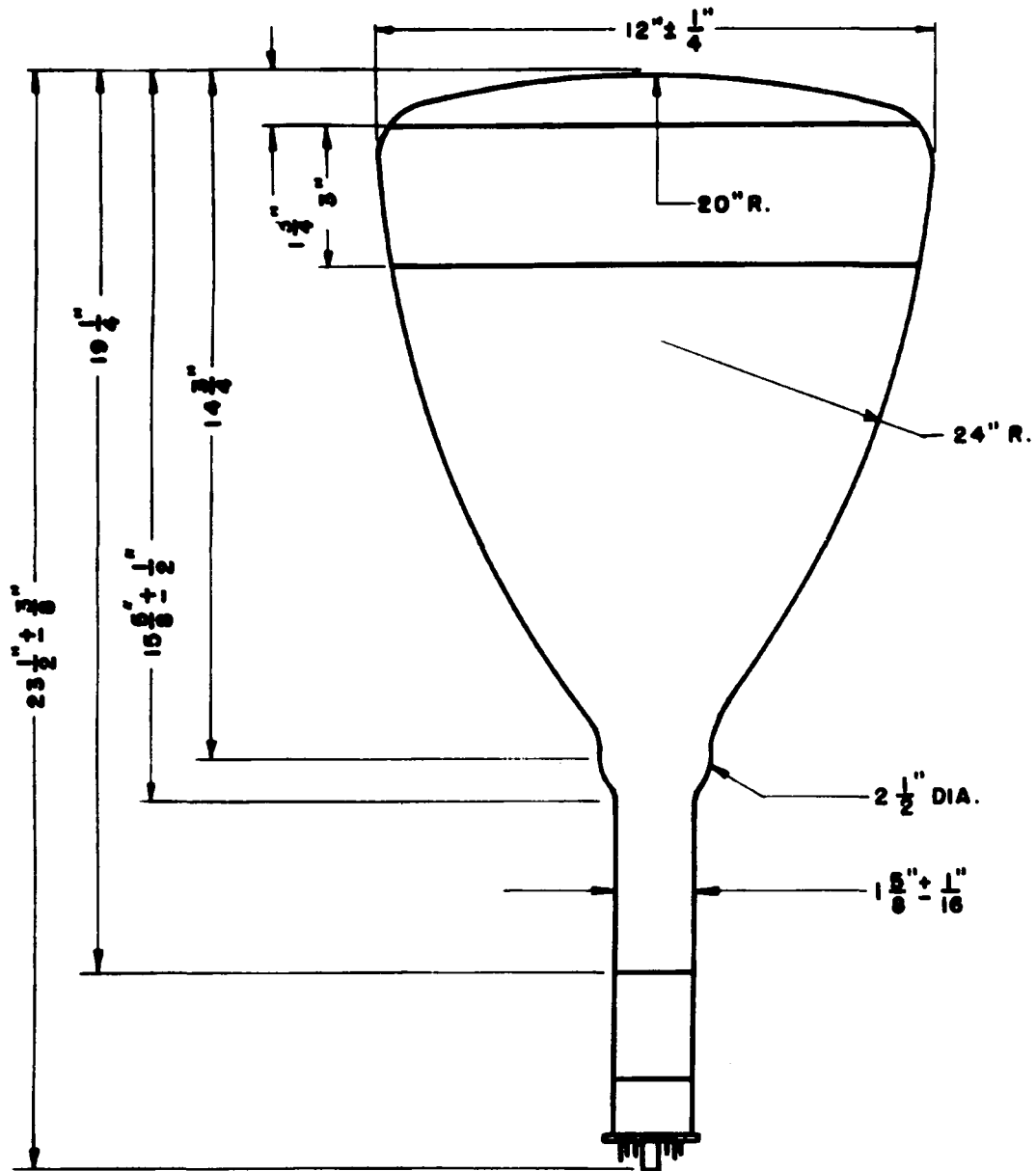
Electrodes D_1 and D_2	19 volts / (inch KV) $\pm$ 20%
Electrodes D_3 and D_4	25 volts / (inch KV) $\pm$ 20%

Notes

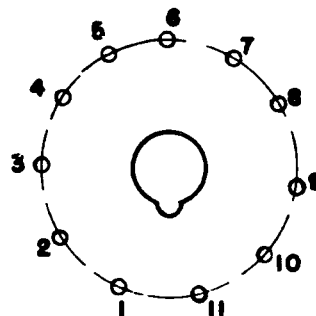
1. When the tube is operated under typical conditions, and E_{c1} set to avoid damage to the screen, the focused undeflected spot will fall within a square of the given size centered at the geometric centre of the tube face and having one side parallel to the trace produced by D_1 , D_2 .

2. Cut-off voltage is voltage necessary for visual extinction of stationary focused spot.

HIGH VACUUM CATHODE RAY TUBE 12HP1



PIN NO.	ELEMENT
1	H.
2	INTERNAL CONNECTION
3	P1
4	D4
5	D1
6	P2
7	D2
8	D3
9	N.C.
10	G.
11	H & K.



BOTTOM VIEW OF
BASE CONNECTIONS

BULB - J96C1

BASE - 11 PIN MAGNAL,
METAL SHELL