sponsored by Research Enterprises, Ltd., Toronto, Ont. Canada

CATHODE RAY TUBE CHARACTERISTIC SHEET

Type 12FP7

Physical Characteristics

Focusing Method	Electrostatic
Deflecting Method	Electrostatic
Phosphor	P7
Overall Length	24" ± ½"
Diameter of Bulb	12" ± 3/16"
Bulb Type	J96D
Base	12 Pin Diheptal
Bulb Contact	Medium Metal Cap
Basing RMA Designation	14E

Base Alignment

D1-D2 trace aligns with Pin #5 and the tube axis ±10°.
Angle between traces is 90° ± 4°
Positive voltage on D1 (Pin #11) deflects beam approximately toward Pin #5.
Positive voltage on D3 (Pin #7) deflects beam approximately toward Pin #2.

Bulb contact alignment

Anode #3 contact is on same side as Pin #5 and aligns with Pin #5 and the tube axis ±10°.

Spot centering[6] within 35 mm square

Direct Interelectrode Capacitances (Maximum)

Cathode to all other electrodes	10 mmf.
Grid #1 to all other electrodes	10 mmf.
Deflecting electrode D1 to deflecting electrode D2	5 mmf.
Deflecting electrode D3 to deflecting electrode D4	5 mmf.
Deflecting electrode D1 to all other electrodes	11 mmf.
Deflecting electrode D3 to all other electrodes	10 mmf.
Deflecting electrode D1 to all other electrodes except D2	11 mmf.
Deflecting electrode D2 to all other electrodes except D1	11 mmf.
Deflecting electrode D3 to all other electrodes except D4	8 mmf.
Deflecting electrode D4 to all other electrodes except D3	9 mmf.

Electrical Characteristics

Ratings

Heater voltage[1]	6.3 volts
Heater current	0.6 amps
Anode #3 (Supplementary High Voltage Electrode) Voltage	8800 volts max.

Electrical Characteristics

Anode #2 (High Voltage Electrode) Voltage	4400 volts max.
Anode #1 (Focusing Electrode)Voltage	2200 volts max.
Grid #2 (accelerating Electrode) Voltage	2200 volts max.
Grid #1 (control Electrode) Voltage	never positive
Peak voltage between Anode #2 and any deflecting electrode	1100 volts max.
D.C. Heater Cathode Potential[7]	-125 volts max.
Impedance of any deflecting electrode supply circuit at heater supply frequency	1.0 megohm max.
Grid circuit Resistance	1.5 megohm max.

Typical Operation

Anode #3 Voltage	4000	4000	6000	8000
Anode #2 Voltage[4]	2000	4000	3000	4000
Anode #1 Voltage[2]	625	1250	937	1250
Grid #2 Voltage[3]	2000	2000	2000	2000
Grid #1 Voltage for cut-off[5]	-60	-60	-60	-60
Deflection Factor				
Electrodes D1 and D2	55		83	110
Electrodes D3 and D4	63		94	125

Notes

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

2. Nominal voltage taken at 75% of grid voltage required for cut-off. Tolerances refer to variations of focusing voltage with grid voltage between 0 and cut-off.

3. Subject to verification.

4. Brilliance and definition decrease with decreasing anode voltages. In general anode #2 voltage should not be less than 2000 volts.

5. Cut-off voltage is voltage necessary for visual extinction of stationery focused spot.

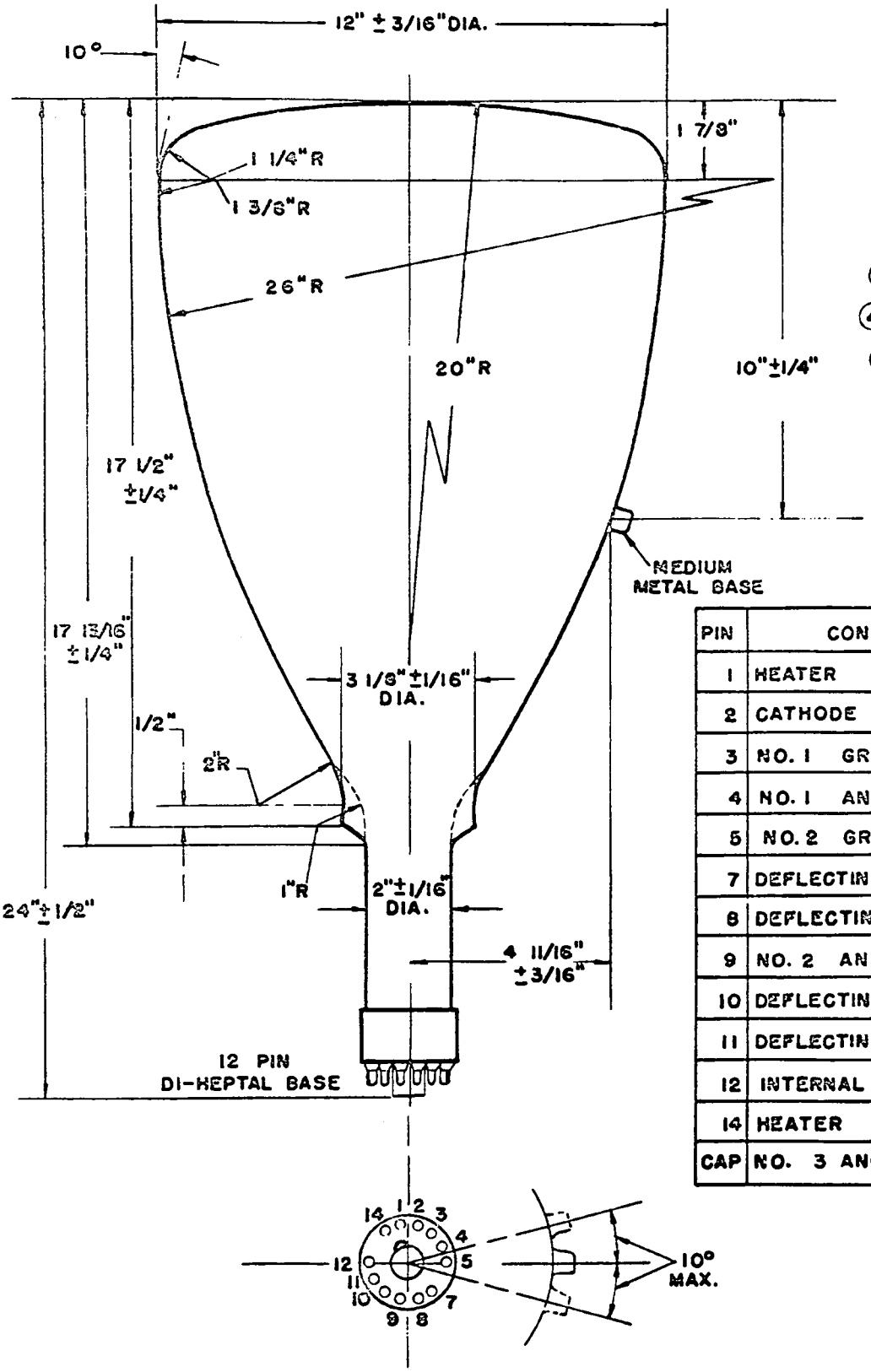
6. The undeflected focused spot will fall within a square of given size centered at the geometric centre of the tube face, and having one side parallel to the trace produced by D1.

7. With heater negative. Cathode should be connected to the mid-tap or to one side of heater supply.

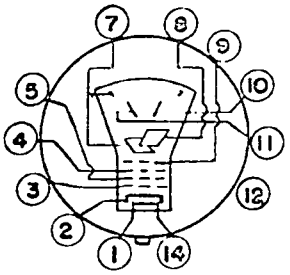
RESEARCH ENTERPRISES LIMITED
RADIO DIVISION, LEASIDE (TORONTO) CANADA

12FP7

CATHODE RAY TUBE TYPE 12FP7



14-E



BOTTOM VIEW OF SOCKET CONNECTION

PIN	CONNECTIONS
1	HEATER
2	CATHODE
3	NO. 1 GRID
4	NO. 1 ANODE
5	NO. 2 GRID
7	DEFLECTING ELECTRODE D 3
8	DEFLECTING ELECTRODE D 4
9	NO. 2 ANODE
10	DEFLECTING ELECTRODE D 2
11	DEFLECTING ELECTRODE D 1
12	INTERNAL CONNECTION
14	HEATER
CAP	NO. 3 ANODE