DUMONT

Release No. 654

April 30, 1948

CATHODE-RAY TUBE

TYPES: 5RP1, 5RP2, 5RP4 5RP5, 5RP7, 5RP11

GENERAL CHARACTERISTICS

Electrical

Heater Voltage	6.3 ± 10% Volts
Heater Current	0.6 ± 10% Ampere
Focusing Method	Electrostatic
Deflecting Method	Electrostatic

Phosphor	P1	P2	P4	P5	P7	P11
Fluorescence	Green	Green	White	Blue	Blue	Blue
Phosphorescence	--	Green	--	--	Yellow	--
Persistence	Medium	Long	Medium	Short	Long	Short

Direct Interelectrode Capacitances, Nominal

Cathode to all other electrodes	5.0 uuf.
Grid #1 to all other electrodes	5.4 uuf.
D1 to D2	1.8 uuf.
D3 to D4	1.8 uuf.
D1 to all other electrodes except D2	2.3 uuf.
D2 to all other electrodes except D1	2.1 uuf.
D3 to all other electrodes except D4	2.4 uuf.
D4 to all other electrodes except D3	2.2 uuf.

Mechanical

Overall Length	16 3/4" ± 3/8"
Greatest Diameter of Bulb	5 1/4" ± 3/32"
Minimum Useful Screen Diameter	4 1/4"
Bulb Contacts	Snap terminal ball contact
Neck Contacts	Special lateral contacts
Base	Medium 12-pin diheptal
Basing	14F

Base Alignment 1D2 trace aligns with
Pin #5 and tube axis ± 10 Degrees
Positive voltage on D1 deflects beam approximately toward Pin #5.
Positive voltage on D3 deflects beam approximately toward Pin #2.

Bulb contact alignment:
Snap terminal contacts align with 1D2 trace ± 10 Degrees
Contacts on same side as Pin #5.

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MAXIMUM RATINGS Design Center Values

Anode No. 3 Voltage (accelerator High Voltage Electrode)	25,500 Max. Volts D-C
Anode No. 2 Voltage	3,500 Max. Volts D-C
Ratio Anode No. 3 Voltage to Anode No. 2 Voltage	10 Max.
Anode No. 1 Voltage	1,550 Max. Volts D-C
Grid No. 1 Voltage	
Negative Bias Value	125 Max. Volts D-C
Positive Bias Value	0 Max. Volts D-C
Positive Peak Value	2 Max. Volts
Peak Heater Cathode Voltage[1]	
Heater Negative with respect to Cathode	125 Max. Volts D-C
Heater Positive with respect to Cathode	125 Max. Volts D-C
Peak Voltage between Anode No. 2 and any Deflection Electrode	1,200 Max. Volts

TYPICAL OPERATING CONDITIONS

For Anode No. 3 Voltage[2] of	10,000	20,000 Volts
For Anode No. 2 Voltage of	2,000	2,000 Volts
Anode No. 1 Voltage for focus	362 to 695	362 to 695 Volts
Grid No. 1 Voltage[3]	-30 to -90	-30 to -90 Volts
Deflection Factors:		
D1 and D2	102 to 154	140 to 210 Volts D-C per Inch
D3 and D4	97 to 145	131 to 197 Volts D-C per Inch
Anode No. 1 Voltage for focus	18.1% to 34.8% of Eb2 Volts	
Grid No. 1 Voltage[3]	1.5% to 4.5% of Eb2 Volts	
Anode No. 1 Current for any operating condition	0 to 600 Microamperes	

Deflection Factors:

No 3rd Anode or Eb3 = Eb2	
D1 and D2	30 to 45 Volts D-C per inch per Kilovolt of Eb2
D3 and D4	30 to 45 Volts D-C per inch per Kilovolt of Eb2
Eb3 = Twice Eb2	
D1 and D2	36 to 54 Volts D-C per inch per Kilovolt of Eb2
D3 and D4	36 to 54 Volts D-C per inch per Kilovolt of Eb2

Spot Position (Undeflected)[4] Within 20 Millimeters square

Allen B. Du Mont Laboratories, Inc.
Passaic, New Jersey

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MAXIMUM CIRCUIT VALUES

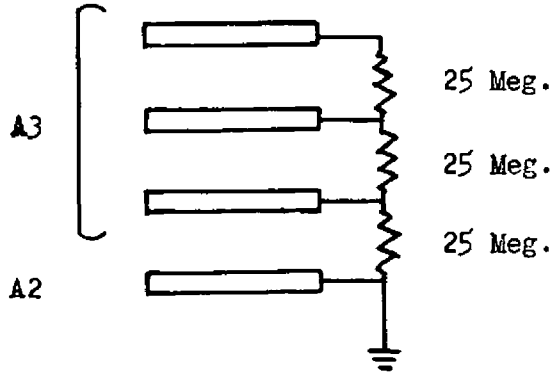
Grid No. 1 Circuit Resistance	1.5 Max. Megohms
Resistance in any Deflecting Electrode Circuit[5]	5 Max. Megohms

NOTES

1. Cathode should be returned to one side or to the mid-tap of the heater transformer winding.

2. Equally divided over the three intensifier electrodes.

   Suggested method of connection:



3. Visual extinction of undeflected focused spot.

4. When the tube is operated at (1) normal heater voltage; (2) Eb2= 2000 volts; (3) Eb3=10,000 volts; (4) Eb1 adjusted for focus; (5) Ec1 set at such a value as will avoid damage to the screen; (6) with each of the deflecting electrodes connected to Anode No. 2; and (7) with the tube shielded against external influences:

   The spot will fall within a 20 mm. square, the center of which coincides with the geometric center of the tube face and the sides of which are parallel to the traces produced by deflecting electrodes D1 and D2 and by deflecting electrodes D3 and D4 respectively.

5. It is recommended that the deflecting electrode circuit resistances be approximately equal.

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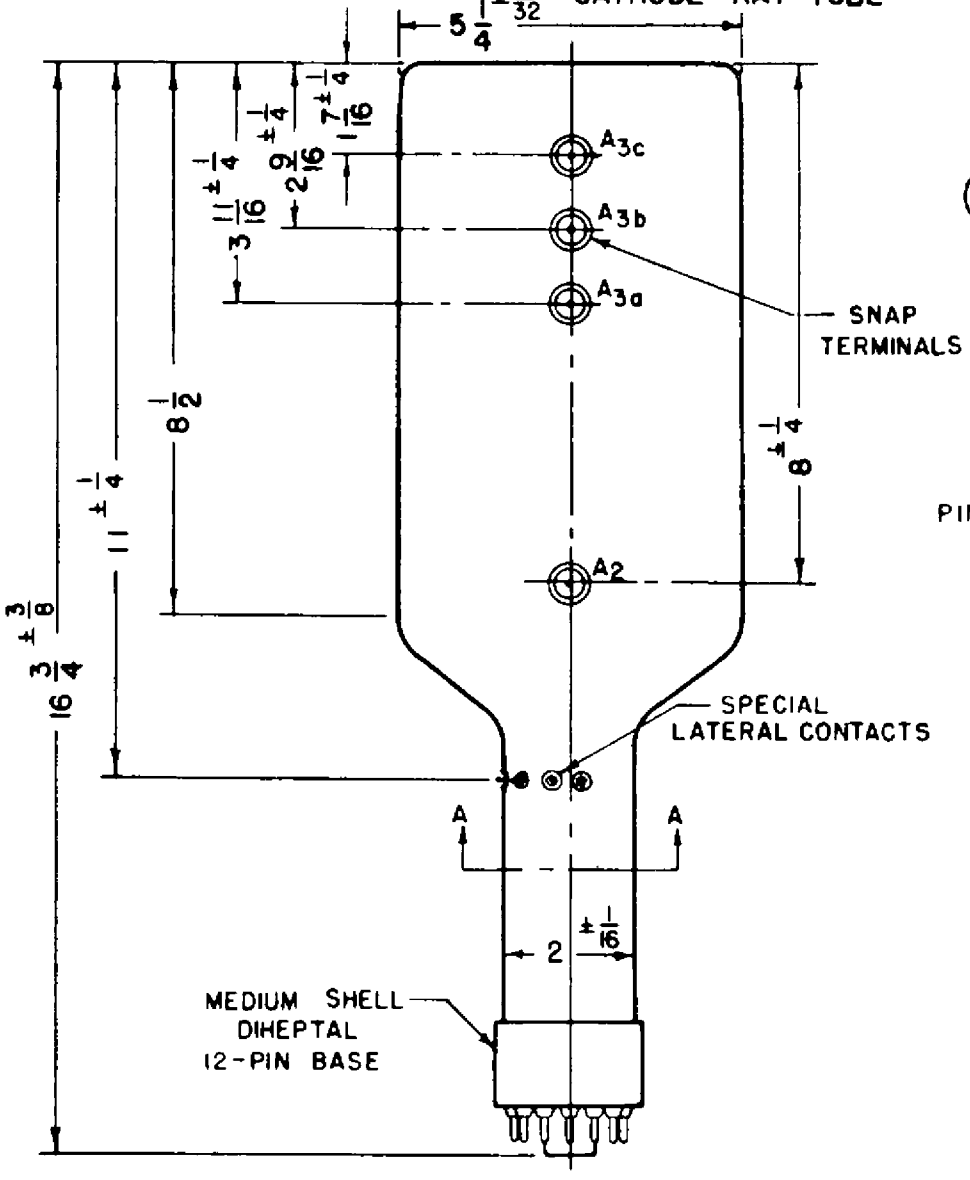
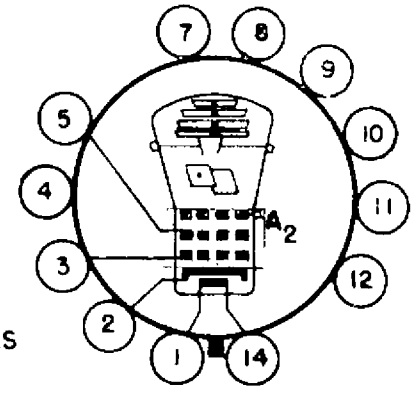
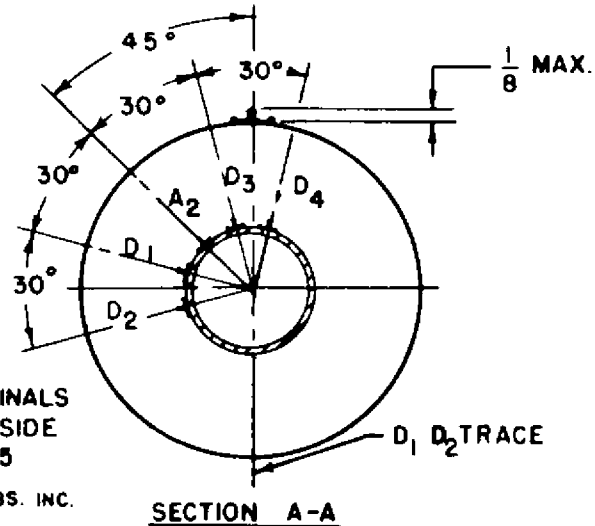
5RP1, 5RP2, 5RP4, 5RP5, 5RP7, 5RP11, CATHODE-RAY TUBE





14 F
BOTTOM VIEW OF BASE

PIN NO.	ELEMENT
1	HEATER
2	CATHODE
3	CONTROL ELECTRODE
4	INTERNAL CONNECTION
5	FOCUSING ELECTRODE
7	NO CONNECTION
8	" "
9	" "
10	" "
11	" "
12	" "
14	HEATER



SNAP TERMINALS ON SAME SIDE AS PIN 5

SECTION A-A

ALLEN B. DUMONT LABS. INC.
PASSAIC, N.J.

5-7-48

RADIO MANUFACTURERS ASSOCIATION

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1317 F STREET, N.W.
WASHINGTON, D. C.

E. I. A.
REGISTRATION
FILE

R.M.A. DATA BUREAU
90 West Street
New York, N. Y.

SUPPLEMENTARY

Release No. 654

November 4, 1949

To
Tube Engineers:

On April 30, 1948 in Release No. 654, referring to cathode ray tube types

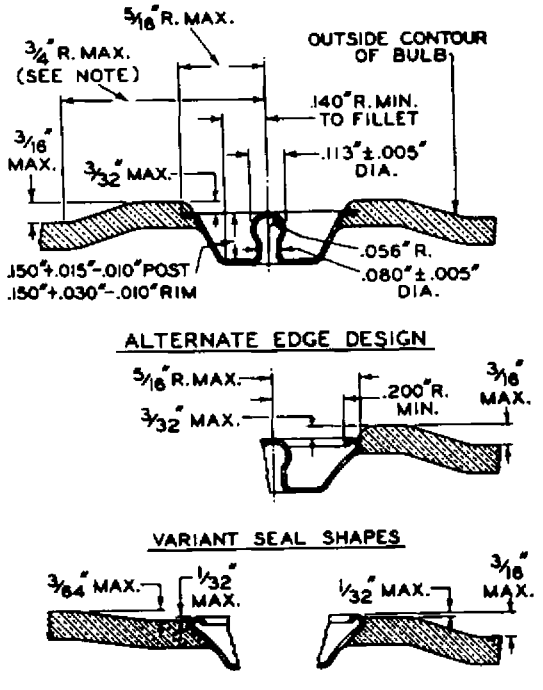
5RP1, 5RP2, 5RP4, 5RP5, 5RP7 and 5RP11

reference is made to the inclusion of two types of terminals which are referred to only by name and not otherwise specified. The Data Bureau, having been queried as to the specific detail as to these two terminals, the sponsor, A. B. DuMont Laboratories, Inc., has provided for the following additional information:

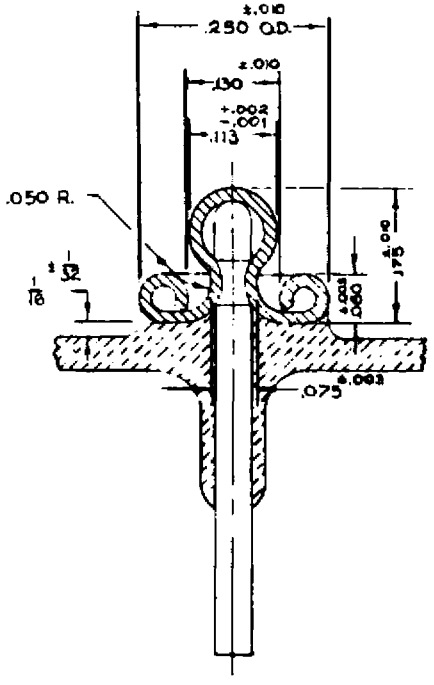
a) The "snap terminal ball contact" to which reference is made is, in fact, the J1-22 Recessed Small Ball Cap which is here shown as to salient dimensional detail.

b) The "special lateral contact" to which reference is made is, in fact, the J1-25 Small Ball Cap which is here shown as to salient dimensional detail.

J1-22



J1-25



Respectfully yours,

RMA DATA BUREAU

By _____

LCFHorle/cap