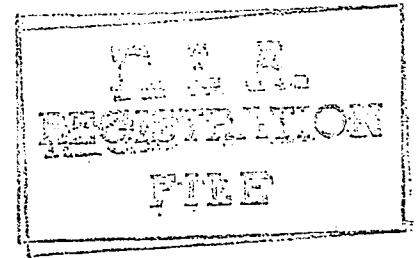


DU MONT CATHODE-RAY TUBES

Types 3GP1, 3GP4, 3GP5



The Type 3GP Cathode-Ray Tubes are designed for oscillographic and other applications where small spot size, a brilliant trace, and a minimum of defo-

cusing with deflection are required. The three types differ only in the characteristics of the fluorescent screens.

CHARACTERISTICS

HEATER

Voltage, a.c. or d.c.
Current

6.3 volts
0.6 ampere

DEFLECTION

Electrostatic

FOCUS

Electrostatic

SCREEN

Phosphor
Fluorescence
Persistence

3GP1	3GP4	3GP5
P1	P4	P5
Green	White	Blue
Medium	Medium	Short

MECHANICAL CHARACTERISTICS

Overall Length
Maximum Diameter
Bulb
Base

11 1/2" $\pm$ 3/8"

3" $\pm$ 1/16"

C24W1C

Medium magnal

11A

Basing RMA Basing Designation

The basing is such that:

1. The direction of the trace produced in the screen by deflecting electrodes D_3 and D_4 will not deviate more than $\pm 10^\circ$ from a plane through pin No. 1 and the axis of the tube, while the angle between the direction of this trace and that of the trace produced on the screen by deflecting electrodes D_1 and D_2 will be $90^\circ \pm 3^\circ$.
2. With deflection electrode D_3 (pin No. 9) positive with respect to D_4 (pin No. 6) the spot will be deflected approximately toward pin No. 1; while with deflection electrode D_1 (pin No. 3) positive with respect to D_2 (pin No. 8) the spot will be deflected approximately toward pin No. 4.

DIRECT INTERELECTRODE CAPACITANCES

Control Electrode (grid) to all other electrodes
Deflection Plate D_1 to Deflection Plate D_2
Deflection Plate D_3 to Deflection Plate D_4
 D_1 to all other electrodes
 D_3 to all other electrodes
 D_1 to all other electrodes except D_2
 D_2 to all other electrodes except D_1
 D_3 to all other electrodes except D_4
 D_4 to all other electrodes except D_3

8.9 uuf
1.6 uuf
1.2 uuf
11.7 uuf
6.9 uuf
10.1 uuf
10.2 uuf
5.7 uuf
5.8 uuf

RATINGS

Heater voltage
Heater current
Anode #2 (Accelerating Electrode) voltage (E_{a2})
Anode #1 (Focusing Electrode) voltage (E_{a1})
Grid (Control Electrode) voltage (E_{c1})
Peak voltage between Anode #2 and any deflecting plate
Grid circuit resistance
Impedance of any deflecting electrode circuit at heater supply frequency

6.3 volts
0.6 amp. $\pm 10\%$
1500 volts (max.)
1000 volts (max.)
Never positive
500 volts (max.)
1.5 megohms (max.)
1.0 megohms (max.)

TYPICAL OPERATION

Heater voltage	6.3	6.3	volts
Anode #2 voltage (E_{b2})	1000	1500	volts
Anode #1 voltage (E_{b1}) for focus when $E_{c1} = 75\%$ of cut-off value	234	350	volts $\pm 20\%$
Range of E_{b1} to focus with values of E_{c1} between 0 and cut-off	234	350	volts $+25\%$, -30%
Grid voltage (E_{c1}) for beam cut-off	33	50	volts $\pm 50\%$
Anode #1 current, I_{b1} , at $E_{c1} = 0$; E_{b1} adjusted for focus		1330	microamp. max.

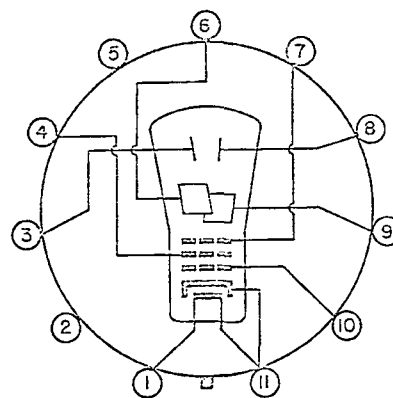
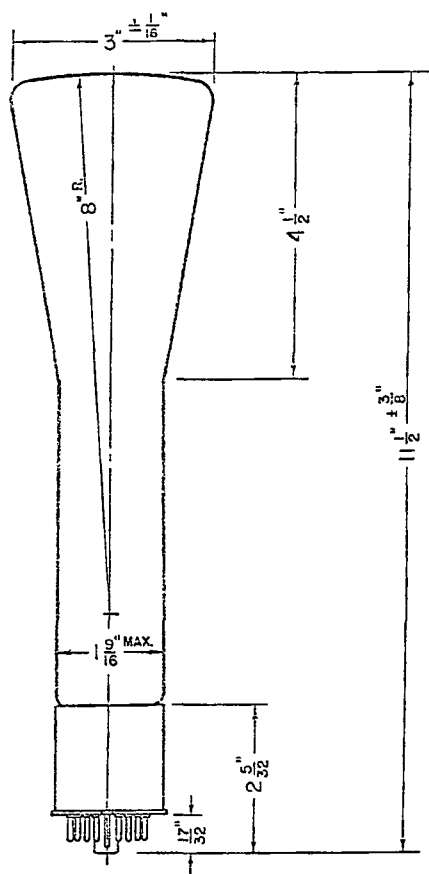
DEFLECTION

LECTION	FACTOR	SENSITIVITY
D ₁ D ₂	80 d.c. volts/kv. in. $\pm 20\%$	0.32 mm. kv./d.c. volt (av.)
D ₃ D ₄	70 d.c. volts/kv. in. $\pm 20\%$	0.36 mm. kv./d.c. volt (av.)

SPOT POSITION

When the tube is operated at (1) normal heater voltage; (2) $E_{h2} = 1500$ volts; (3) E_{h1} adjusted for focus; (4) E_{c1} set at such a value as will avoid damage to the screen with (5) each of the deflecting electrodes connected to Anode #2 through a one megohm resistor and (6) with the tube shielded against external influences:

The spot will fall within a 15 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 deflection electrodes D_1 and D_2 and by deflection electrodes D_3 and D_4 respectively.



Bottom View of Base

- | | | |
|-------|----|---------------------------------|
| Pin # | 1 | Heater |
| | 2 | No Connection |
| | 3 | Deflection Plate D ₁ |
| | 4 | Focusing Electrode |
| | 5 | No Connection |
| | 6 | Deflection Plate D ₄ |
| | 7 | Accelerating Electrode |
| | 8 | Deflection Plate D ₂ |
| | 9 | Deflection Plate D ₃ |
| | 10 | Control Electrode |
| | 11 | Heater-Cathode |

ALLEN B. DU MONT LABORATORIES, INC.
Passaic, N. J., U. S. A.