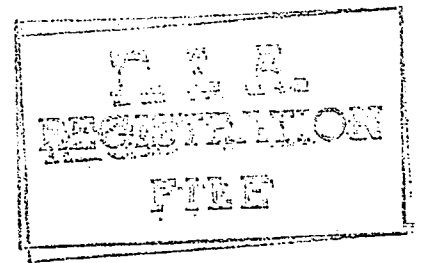


DU MONT CATHODE-RAY TUBES

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
Phosphor	P1	P4	P5
Fluorescence	Green	White	Blue
Persistence	Medium	Medium	Short

MECHANICAL CHARACTERISTICS

Overall Length
Maximum Diameter
Bulb
Base
Basing RMA Basing Designation
The basing is such that:

11½" ± ⅜"
3" ± 1/16"
C24W1C
Medium magnal
11A

1. The direction of the trace produced in the screen by deflecting electrodes D₃ and D₄ will not deviate more than ±10° 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 D₁ and D₂ will be 90° ± 3°.
2. With deflection electrode D₃ (pin No. 9) positive with respect to D₄ (pin No. 6) the spot will be deflected approximately toward pin No. 1; while with deflection electrode D₁ (pin No. 3) positive with respect to D₂ (pin No. 8) the spot will be deflected approximately toward pin No. 4.

DIRECT INTERELECTRODE CAPACITANCES

Control Electrode (grid) to all other electrodes	8.9 uuf
Deflection Plate D ₁ to Deflection Plate D ₂	1.6 uuf
Deflection Plate D ₃ to Deflection Plate D ₄	1.2 uuf
D ₁ to all other electrodes	11.7 uuf
D ₃ to all other electrodes	6.9 uuf
D ₁ to all other electrodes except D ₂	10.1 uuf
D ₂ to all other electrodes except D ₁	10.2 uuf
D ₃ to all other electrodes except D ₄	5.7 uuf
D ₄ to all other electrodes except D ₃	5.8 uuf

RATINGS

Heater voltage	6.3 volts
Heater current	0.6 amp. ±10%
Anode #2 (Accelerating Electrode) voltage (E _{b2})	1500 volts (max.)
Anode #1 (Focusing Electrode) voltage (E _{b1})	1000 volts (max.)
Grid (Control Electrode) voltage (E _{c1})	Never positive
Peak voltage between Anode #2 and any deflecting plate	500 volts (max.)
Grid circuit resistance	1.5 megohms (max.)
Impedance of any deflecting electrode circuit at heater supply frequency	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

D_1, D_2
 D_3, D_4

FACTOR

80 d.c. volts/kv. in. $\pm 20\%$
70 d.c. volts/kv. in. $\pm 20\%$

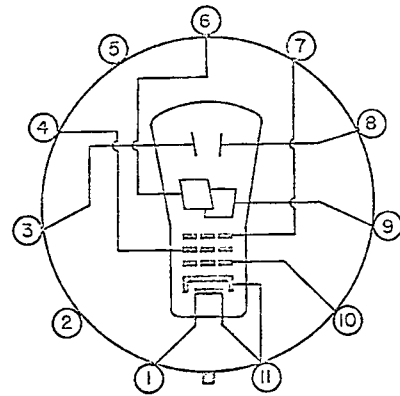
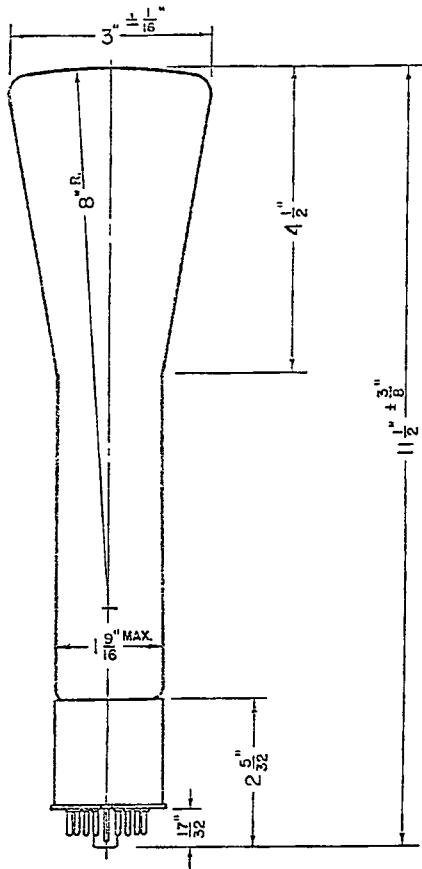
SENSITIVITY

0.32 mm. kv./d.c. volt (av.)
0.36 mm. kv./d.c. volt (av.)

SPOT POSITION

When the tube is operated at (1) normal heater voltage; (2) $E_{b2} = 1500$ volts; (3) E_{b1} 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

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