VALVE ELECTRONIC

CV2193

GENERAL POST OFFICE: E-IN-C (S)

Specification: GPO/CV2193/Issue 1. Dated: March 1951 To be read in conjunction with K 1001	SECURITY Specification: **Unclassified** Valve: **Unclassified**

→ indicates a change

TYPE OF VALVE: Double beam oscillograph tube
CATHODE: Indirectly heated
ENVELOPE: Glass
PROTOTYPE 89D
SCREEN: GGN 28

MARKING

See K1001/4

			Note
Heater voltage	(V)	6.3	
Heater current	(A)	0.7	
A1 max. voltage	(KV)	3.0	
A3 max. voltage	(KV)	4.0	
A2 voltage for focus	(V)	350	
Vg max., cut off	(V)	-50	
X Plate sensitivity	mm/V	750/Va3	
Y Plate sensitivity (each beam)	mm/V	650/Va3	

Base

None

Connexions

See drawing on Page 4

Dimensions

See drawing on Page 4

Packing

see K 1001/7.3

To be performed in addition to those applicable in K 1003

	Test Conditions					Test	Limits		No. Tested	Note
	Vh	Va3	Va2	Va1	Vg		Min	Max.		
a	6.3	0	0	0	0	Ih (A)	0.5	0.6	100%	
b	6.3	2 kV	Adjust for optimum focus	2 kV	Adjust to cut-off	Vg (V)		-50	100%	
c	6.3	2 kV	do	2 kV	do	Difference in cut-off of each beam (V)		5	100%	
d	6.3	2 kV	do	2 kV						
	Vg adjusted to give light output of 2.0 E.F.C. on a 3 cmx 3 cm close raster.					1. Vg (V)	-	-50	100%	1
						2. Drop in brightness of each beam after deflection from screen (%)	25		100%	
						3. With in the range of grid voltage from cut-off to standard light output, the beam current shall increase continuously.			100%	
						4. Line width shall not be inferior to standard with identical raster.				
						5. Va2 (V)	225	425	100%	
e	6.3	2 kV	Adjust for optimum focus	2 kV	Any convenient value	Deviation of spot from centre of screen (mm)		7.5	100%	
	All deflection plates connected to A 3									
f	6.3	2 kV	do	2 kV	do	Deflection sensitivities				
						1. X Axis (mm/V)	$\frac{720}{Va3}$	$\frac{820}{Va3}$	100%	
						2. Y Axis	$\frac{600}{Va3}$	$\frac{725}{Va3}$		

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	Test Conditions					Test	Limits		No. Tested	Note
	Vh	Va3	Va2	Va1	Vg		Min	Max.		
g	6.3	2 kV	Any convenient value	2 kV	do	Angle between X & Y axis of deflection	88°	92°	100%	
h	6.3	2 kV	do	2 kV	do	1. Deviation of Y1 beam		1%	100%	
	Sawtooth voltage on X axis and Y2 plate, Y1 connected to A3.									
	Repeat with Y2 connected to A3.					2. Deviation of Y2 beam		1%	100%	
j	6.3	2 kV	do	2 kV	do	Useful Screen area "X" axis (mm) "Y" axis (mm)	90 55		100%	
	6.3	2 kV	do	2 kV	do	The screen shall be uniform in colour and free from stain or patches.			100%	
	Deflecting field to give a raster covering the useful screen area.									
l	6.3	2 kV	do	2 kV	-50	Grid insulation (MΩ)	10			
m	4.0	0	0	0	50	Heater Cathode insulation Leakage current (μA)		200	100%	
p	6.3	4.5kV	Any convenient value	2 kV	Any convenient value	There shall be no persistent flash-over.			100%	

Notes

1. If burning occurs, raster may be increased in size and equivalent L.O. figure used.

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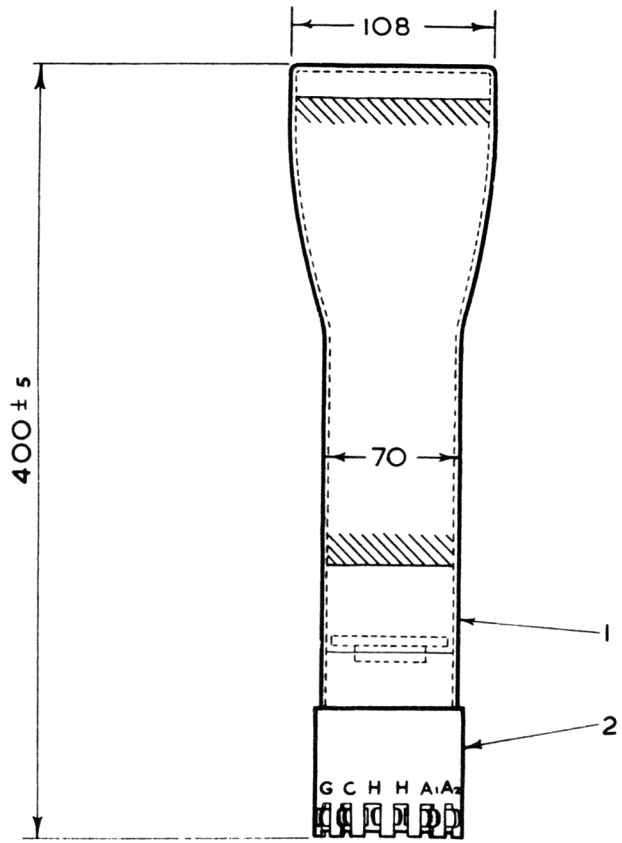
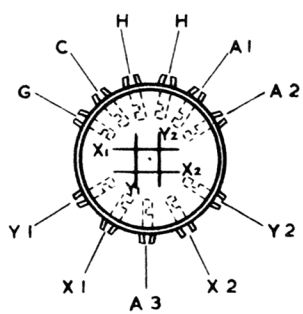


OUTLINE
SCALE $\frac{1}{3}$ F.S.

DIMENSIONS IN mm.



LOOKING AT BASE END OF TUBE