VALVE ELECTRONIC

CV2185

ADMIRALTY SIGNAL & RADAR ESTABLISHMENT

Specification AD/CV2185 Issue No.3 dated 20.12.55. To be read in conjunction with K1001 and B.S.1409	SECURITY	
	Specification	Valve
	Unclassified	Unclassified

⟶ Indicates a change

TYPE OF VALVE:- Cathode Ray Tube

TYPE OF DEFLECTION:- Electrostatic

TYPE OF FOCUS:- Electrostatic

BULB:- Internally coated with conductive coating

SCREEN:- GGN

PROTOTYPE:- Type 88D

MARKING

See K1001/4.

BASE

11 Contact Clip Type on Paxolin Cylinder.

Clip	Electrode
1	y2
2	x2
3	a3
4	x1
5	y1
6	g
7	k
8	h
9	h
10	a1
11	a2

RATING			Note
Heater Voltage	(V)	6.3	
Heater Current	(A)	0.55	
Max. Third Anode Voltage	(kV)	4	
Max. Second Anode Voltage	(kV)	1	
Max. First Anode Voltage	(kV)	3	
Max. Negative Grid Voltage	(V)	100	
Sensitivity, x plates	(mm/V)	$\frac{630}{Va3}$	
Sensitivity, y plates	(mm/V)	$\frac{950}{Va3}$	
Max. Voltage between x plates	(V)	750	
Max. Voltage between y plates	(V)	500	
Typical Working Conditions			
Third Anode Voltage	(kV)	2	
Second Anode Voltage	(V)	350	
First Anode Voltage	(kV)	2	
Negative Grid Voltage	(V)	0-50	
Beam Current	(μA)	0-50	

DIMENSIONS

See drawings on pages 4 and 5

TESTS

To be performed in addition to those applicable in K1001.

	Test Conditions					Test	Limits		No. Tested
	Vh (V)	Va3 (kV)	Va2 (V)	Va1 (kV)	Vg (V)		Min.	Max.	
a	See K1001/5A.13.					Capacitances (pF)			
						i. Each x plate to all other electrodes.	-	17.5	T.A.
						ii. Each y plate to all other electrodes.	-	15	
						iii. Cathode to all other electrodes.	-	7	
						iv. Grid to all other electrodes.	-	9	
b	6.3	0	0	0	0	Ih (A)	0.5	0.6	10% (20)
c	6.3	2	Adjust to opt. focus	2	Adjust to cut-off.	Vg Cut-off	-	-50	100%
d	6.3	2	-do-	2	Adjust	i. Vg (V)	To be at least 1 volt negative to cathode.		
→	Vg shall be adjusted to give a light output of 0.006 candela from a closed optimum-focus raster of approximate area 60 mm x 60 mm.					ii. Va2 (V)	225	425	100%
						iii. Line Width (mm)		.7	100%
						iv. Beam current must increase steadily from zero to value which gives the specified light output.			
e	6.3	2	As in (d) (ii)	2	50	Grid Insulation			
						Leakage Current (μA)	-	5	100%
	or, with recommended method of K1001/5A.3.2. and with 10 megohms. resistor.					Increase in voltmeter reading. (%)	-	100	100%
f	6.3	2	Adjust for optimum focus	2	Adjust to give just visible spot.	Deflection Sensitivities			
						x plate (mm/V)	$\frac{580}{Va3}$	$\frac{680}{Va3}$	
						y plate (mm/V)	$\frac{870}{Va3}$	$\frac{1040}{Va3}$	5%

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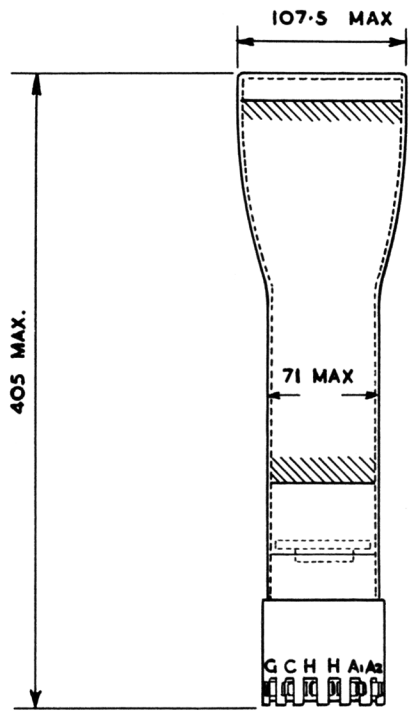
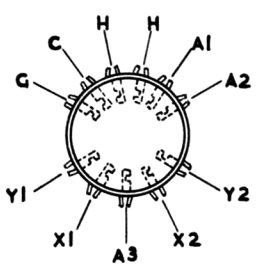
TESTS (cont'd)

	Test Conditions					Test	Limits		No. Tested
	Vh (V)	Va3 (kV)	Va2 (V)	Va1 (kV)	Vg (V)		Min.	Max.	
g	6.3	2	Adjust for optimum focus	2	Adjust to give just visible spot	Deviation of spot from centre of screen. (mm)	-	7.5	100%
h	6.3	2	-do-	2	-do-	Useful Screen Area Diameter (mm)	85	-	100%
	Deflection to cover stated circle centred on centre of screen.								
j	6.3	2	-do-	2	-do-	Angle between x and y axes of deflection.	88	92	100%
k	6.3	2	-do-	2	-do-	Orientation of x axis of deflection relative to plane through clip 3 and axis of tube.	-	±10°	100%
l	6.3	2	-do-	2	-do-	Trapezoidal Distortion			
	A screen area of at least 60 mm x 60 mm to be scanned with symmetrical deflection.					i. Angle between adjacent sides. (°)	87.5	92.5	20%
						ii. Angle between opposite sides. (°)	175	185	20%
m	6.3	2	-do-	2	-do-	Trapezoidal Distortion			
	A screen area of at least 60 mm x 60 mm to be scanned with asymmetrical deflection and with x2 and y2 at a3 potential.					i. Angle between adjacent sides (°)	86	94	T.A.
						ii. Angle between opposite sides. (°)	173	187	T.A.
n	6.3	5	1000	3	Adjust to cut-off.	Maximum Voltage Test See K1001/SA.14.			100%



OUTLINE

DIMENSIONS IN MM.



LOOKING AT BASE END OF TUBE

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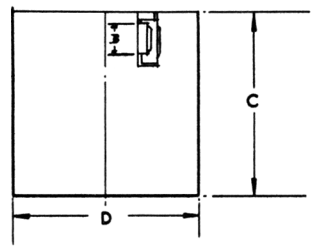

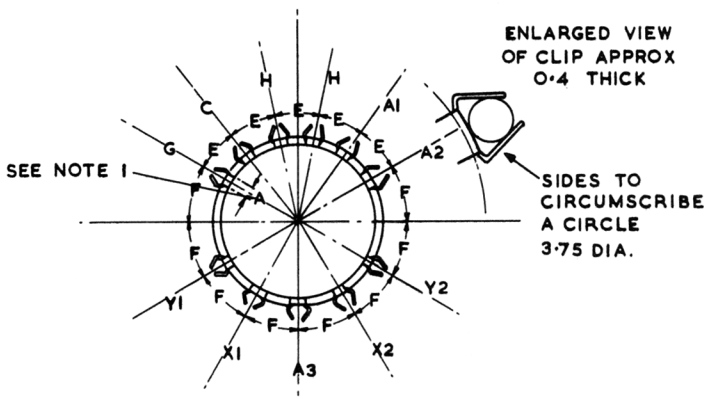

SLEEVE & END PLATE PAXOLIN "Q" QUALITY 1·6 THICK.

DIMENSIONS IN MM'S. EXCEPT WHERE OTHERWISE STATED.	A	B	C	D	E	F
	5·5 ± 0·13	11·0 ± 0·2	70·0 ± 0·5	72·6 ± 0·3	24° ± 0·75	30° ± 0·75

NOTE.

DIMENSION "A" REFERS TO THE SLOT IN THE PAXOLIN INTO WHICH THE CLIP IS FITTED.