VALVE ELECTRONIC **CV2272**

ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

Specification AD/CV2272 Issue No. 4 Dated : 14.2.55 To be read in conjunction with K1001	SECURITY Specification: Unclassified Valve: Unclassified

→ Indicates a change

TYPE OF VALVE: Cathode Ray Tube
TYPE OF DEFLECTION: Electrostatic
TYPE OF FOCUS: Electrostatic
BULB: Glass. Internally coated with conductive coating.
SCREEN: BY8
PROTOTYPE: VCRX212

MARKING
See K1001/4

BASE
B9G

CONNECTIONS

Pin	Electrode
1	C and H
2	G
3	H
4	A2
5	X1
6	Y1
7	A1 and A3
8	Y2
9	X2
S.C.	A4

RATING			Note
Heater Voltage	(V)	4.0	
Heater Current 0.94	(A)	~~1.1~~	
Max. Fourth Anode Voltage	(kV)	5.0	A
Max. Third Anode Voltage	(kV)	2.0	A
Max. Second Anode Voltage	(V)	150	A
Max. First Anode Voltage	(kV)	2.0	A
Max. Peak Cathode Current	(μA)	500	A

TYPICAL OPERATING CONDITIONS		
Fourth Anode Voltage	(kV)	3.5
Third Anode Voltage	(kV)	1.5
Second Anode Voltage (approx.)	(V)	75
First Anode Voltage	(kV)	1.5
Beam Current	(nA)	30
X-Plate Sensitivity	(mm/V)	0.10
Y-Plate Sensitivity	(mm/V)	0.093

SIDE CONTACT
CT7
See B.S.448 ←

DIMENSIONS
See drawing, Page 4 ←

NOTES

A. Absolute Maximum Value.

B. The tube shall be of the post deflector accelerator type. The design shall be such that a change of ± 10% in the Va2 voltage shall not produce an appreciable change in the cut-off voltage.

C. When viewing the screen with the tube positioned such that the keyway on the base spigot is at 30° to the left of the vertical, a positive voltage on Pin 5 will deflect the spot to the right, and a positive voltage on Pin 8 will deflect the spot upwards.

Z.8670.R.

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions					Test	Limits		No. Tested
	Vh (V)	Va4 (kV)	Va3 (kV)	Va2 (V)	Vg (V)		Min.	Max.	
	All deflecting voltages shall be symmetrical								
a	See K1001/5A.13					Capacitances (pF) 1. Each X or Y plate to all other electrodes. 2. Each X plate to each Y plate. 3. Grid to all other electrodes.	 - - -	 12.0 3.0 20.0	 5%
b	4.0	0	0	0	0	Ih (A)	0.85 ~~1.0~~	1.2	100% or S
c	4.0	3.5	1.5	Adjusted for optimum focus	Adjusted for cut-off	Cut-Off Negative Vg (V)	40	120	100%
d	4.0	3.5	1.5	- do -	-	1. Change in value of Vg from test (c) (V) 2. Within the range of grid voltage from cut-off standard light output the beam current shall increase continuously.	-	35	100% 100%
	Vg adjusted to give a light output of 0.02 candela, measured through a C2 filter.								
e	4.0	3.5	1.5	- do -	-	1. Line Width (mm) 2. Va2 (V)	- 40	0.5 110	100% 100%
	Deflection With a sine wave time base of 10 kc/s nom. and line length of 35 mm. in X and Y directions successively, the line width shall be measured at the centre of the trace. Grid The grid shall be pulsed positively from cut-off with amplitude equal to the value obtained in test (d) 1, the nom. values of pulse duration and recurrence rate being 100 p.p.s. and 100 c/s respectively								
f	4.0	3.5	1.5	- do -	-120	Grid Insulation 1. Leakage Current (μA) 2. Increase in Voltmeter reading.	 - -	 12 100%	 100% 100%
	or 2. With recommended method of K1001/5A.3.2 using a 10 megohms resistor.								

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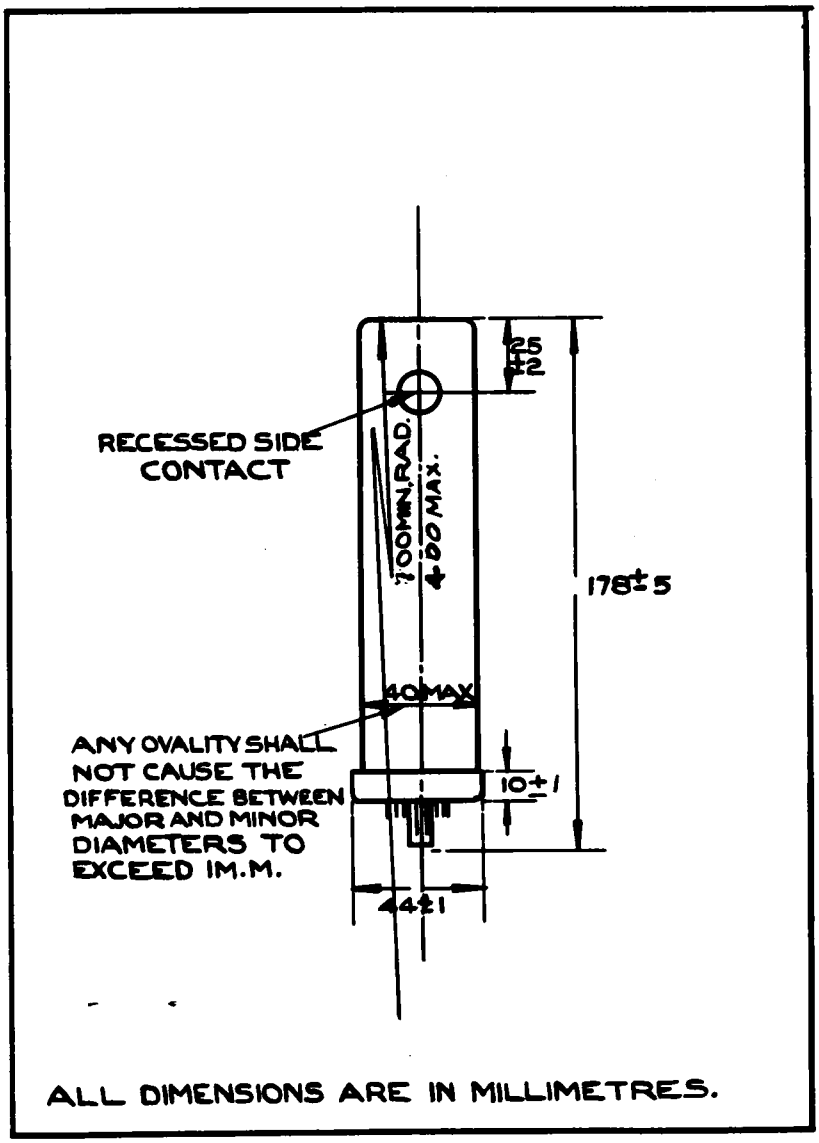
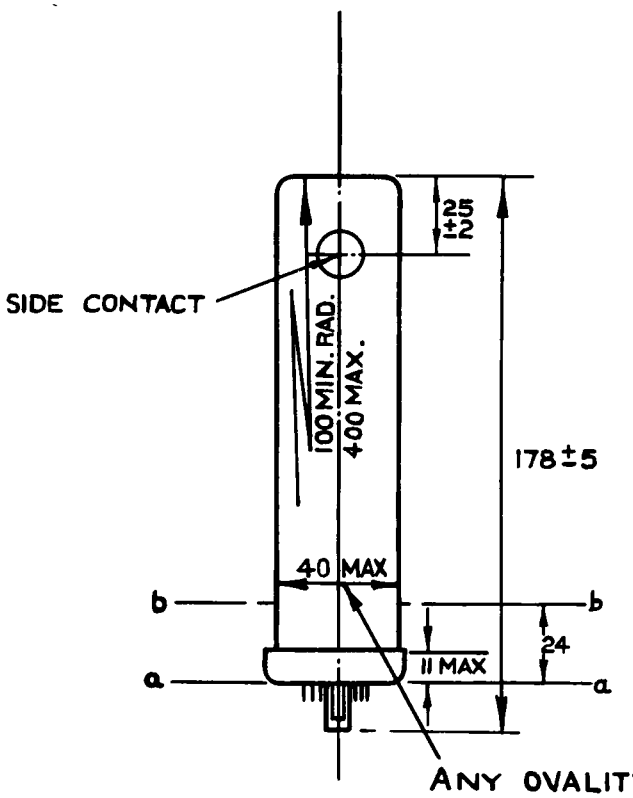
TESTS

To be performed in addition to those applicable in K1001

	Test Conditions					Test	Limits		No. Tested
	Vh (V)	Va4 (kV)	Va3 (kV)	Va2 (V)	Vg (V)		Min.	Max.	
g	4.0	3.5	1.5	- do -	Any convenient value	Deflection Sensitivities 1. X-Plate (mm/V) 2. Y-Plate (mm/V)	0.095 ~~0.086~~ ~~0.090~~ 0.095	0.125 ~~0.113~~ ~~0.107~~ 0.100	 5% (20) 5% (20)
h	4.0	3.5	1.5	- do -	- do -	Spot Displacement Deviation of spot from centre of screen (mm)	-	3	100%
j	4.0 See K1001/5A.12	3.5	1.5	- do -	- do -	Useful Screen Area Diameter (mm)	35	-	100%
k	4.0	3.5	1.5	- do -	- do -	Angle between X and Y axes of deflection.	88°	92°	100%
l	4.0	3.5	1.5	- do -	- do -	1. Orientation of Y axis of deflection relative to axis through keyway on base spigot. 2. Orientation of diameter line through side contact relative to axis through keyway on base spigot.	20° -	40° ±10°	100% 100%


RECESSED SIDE CONTACT
1.00MIN.RAD.
4.00 MAX.
25 ±2
178±5
40 MAX
ANY OVALITY SHALL NOT CAUSE THE DIFFERENCE BETWEEN MAJOR AND MINOR DIAMETERS TO EXCEED 1M.M.
10±1
44±1
ALL DIMENSIONS ARE IN MILLIMETRES.

CV2272/4/IV



NOTE **A.**
OVER THE DISTANCE a-a TO b-b THE DIAMETER SHALL BE 40 ±2 m.m. EXCEPT THAT FOR A DISTANCE OF 11 m.m. MAX. FROM a-a IT MAY BE 44 ± 1 m.m.

ALL DIMENSIONS ARE IN MILLIMETRES.

CV 2272/4/4.