MINISTRY OF SUPPLY - D.L.R.D.(A)/R.A.E.

VALVE ELECTRONIC CV2205

Specification MOSA/CV2205 Issue 2. Dated 13.3.53. To be read in conjunction with K.1001/5A	SECURITY	
	Specification	Valve
	UNCLASSIFIED	UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Cathode Ray Tube TYPE OF DEFLECTION - Electrostatic suitable for symmetrical deflection TYPE OF FOCUS - Electrostatic BULB - Internally coated with conductive coating SCREEN - BB1 PROTOTYPE - VCRX.131	MARKING See K1001/4 BASE British Standard 9-pin

RATING			Note
Heater Voltage	(V)	4.0	
→ Heater Current	(A)	1.0	
Max. Final Anode Voltage	(kV)	1.0	A
Plate Sensitivity			
X-plate	(mm/V)	100/Va3	
Y-plate	(mm/V)	100/Va3	
TYPICAL OPERATING CONDITIONS			
Final Anode Voltage	(V)	800	
Second Anode Voltage	(V)	135	
First Anode Voltage	(V)	800	
Beam Current	(μA)	2-4	

CONNECTIONS

Pin	Electrode
1	X1
2	Y1
3	Second Anode
4	Heater and Cathode
5	Heater
6	Grid
7	First and final Anodes internally connected
8	Y2
9	X2

NOTES

A. The tube shall be capable of operating with first and final anode voltages of 900 V at a pressure equivalent to 7.36° mercury at 15°C.

B. The tube shall be of three-anode construction, and shall be adequately free from microphony.

C. The gun assembly shall be sufficiently robust to withstand considerable mechanical shocks without suffering displacement.

D. Viewing the screen of the tube, with pin number 6 at the top as shown in plan view of the underside of base (see drawing on Page 4) a positive potential applied to pin number 9 shall deflect the spot to the right.

To be performed in addition to those applicable in K.1001.

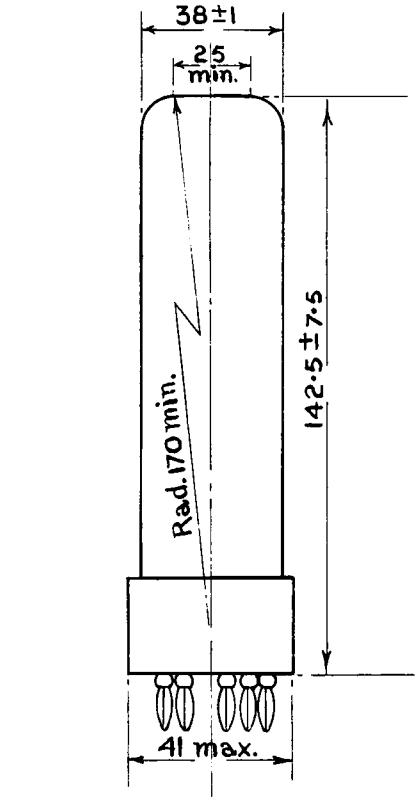
	Test Conditions					Test	Limits		No. Tested	Note
	Vh	Va3	Va2	Va1	Vg		Min.	Max.		
Deflection voltages shall be applied symmetrically in all cases.										
a	See K.1001/5A.13					CAPACITANCES (pF) 1. Each X or each Y plate to all other electrodes. 2. Grid to all other electrodes. 3. One X-plate to one Y-plate.	- - -	15 20 5	T.A.	
b	4.0	0	0	0	-	Ih (A)	0.9 0.85	1.1	5%(10)	
c	4.0	800	Adjusted for optimum focus.	800	Adjust to give cut-off	Vg (V)	-7	-20	100%	
d	4.0	800	ditto	800	Adjust	1. Vg (V)	At least 1 V negative to cathode		100%	
	Vg adjusted to give a light intensity of 0.0022 orthochromatic candelas on close raster 25 mm in both directions.					2. Within the range of grid voltage from cut-off to standard light output the beam current shall increase continuously				
e	4.0	800	ditto	800	ditto	1. Line width (mm)		1.0	100%	
	DEFLECTION With a sine wave time base of 10 kc/s nom. and a line length of 30 mm in the X and Y directions successively. The line width to be measured at the centre of the trace. GRID The grid will be pulsed positively from cut-off with amplitude equal to the value obtained in test (d2), the nominal values of pulse duration and recurrence being 100 µsec and 100 c/s respectively.					2. Va2 (V)	50	175	5%(10)	

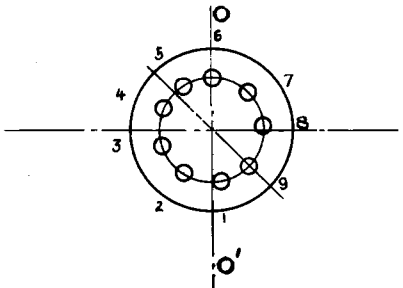
TESTS (Cont'd.)

CV2205

	Test Conditions					Test	Limits		No. Tested	Note
	Vh	Va3	Va2	Va1	Vg		Min.	Max.		
f	4.0	800	Any convenient value	800	-20	GRID INSULATION				
	See K.1001/5A.3.2 Resistor - 5 megohms.					Leakage current (μA)	-	4	100%	
						Increase in voltmeter reading.	-	100%	100%	
g	4.0	800	Adjusted for optimum focus	800	Any convenient value	DEFLECTION SENSITIVITIES				
						1. X-plate	$\frac{80}{Va3}$	$\frac{120}{Va3}$	100%	
						2. Y-plate	$\frac{80}{Va3}$	$\frac{120}{Va3}$		
h	4.0	800	ditto	800	ditto	Deviation of spot from centre of the screen (mm)	-	3	100%	
→ j	4.0 Deflection to cover the stated circle centred on the centre of the screen	800	ditto	800	ditto	USEFUL SCREEN AREA Diameter (mm)	30	-	100%	
→ k	4.0	800	ditto	800	ditto	Angle between X and Y axes of deflection	85°	95°	100%	
→ m	4.0	800	ditto	800	ditto	Orientation of Y axis of deflection. Angle measured relative to axis O-O' shown on drawing on Page 4	-	±10°	100%	

CV2205





View of underside of base

ALL DIMENSIONS IN MILLIMETRES