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

VALVE ELECTRONIC

CV1522

Specification MOSA/CV1522 Issue 5 Dated 12.6.53 To be read in conjunction with K.1001, ignoring clause 5A.3.3	SECURITY Specification: UNCLASSIFIED Valve: 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 - GGN35
PROTOTYPE - VCR522

MARKING

See K.1001/4

Additional marking:- $\frac{X\phi}{Y\theta}$

ϕ and θ - See note D

BASE

British Standard 9-pin

RATING			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.1	
Max. Final Anode Voltage	(KV)	1	
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

See Drawing on Page 3

NOTES

A. The tube shall be capable of operating with first and final anode voltages of 900V 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. The tube is required to be graded and marked according to the values of the deflection plate sensitivities. The tube marking shall be of the form $\frac{X\phi}{Y\theta}$ where ϕ and θ represent the grades of X and Y. plate sensitivities respectively as given in the table below.

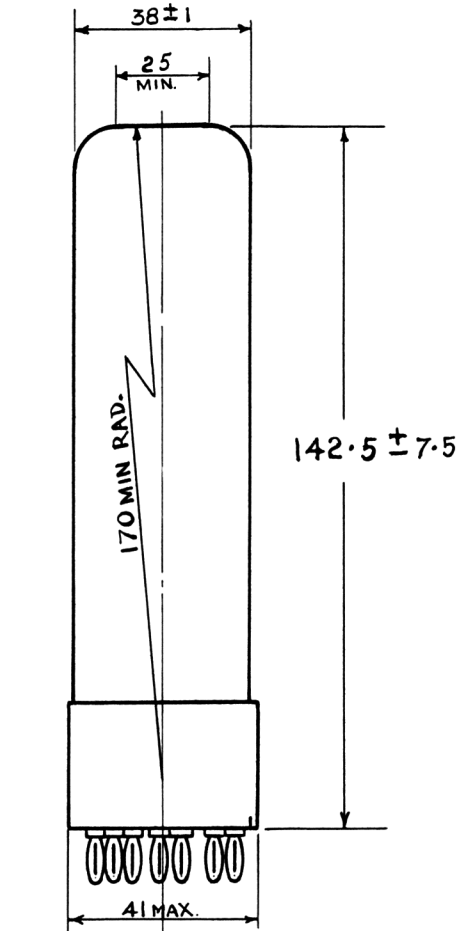
MARKING	PLATE SENSITIVITY mm/Volt/Va3
L	70 - 80 inclusive
A	Over 80 but not greater than 90
B	Over 90 but not greater than 100
C	Over 100 but not greater than 110
D	Over 110 but not greater than 120

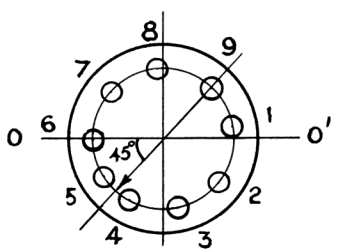
E. When viewing the screen of the tube, with pin number 6 at the top, a positive potential applied to pin 9 shall deflect the spot to the right, and a positive potential applied to pin number 8 shall deflect the spot upwards.

To be performed in addition to those applicable in K1001

	Test Conditions					Test	Limits Min.	Limits Max.	No. Tested	Note
a	See K1001/5A.13					INTER-ELECTRODE 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 T/A T/A	
	Deflection voltages shall be applied symmetrically in all cases									
	Vh	Va3	Va2	Va1	Vg					
b	4	0	0	0	-	Ih (A)	0.85 0.95	1.25	5%(10)	Amdt 1
c	4	800	Adjust for optimum focus	800	Adjust to give cutoff	Vg (V)	-7	-20	100%	
d	4	800	ditto	800	Adjust	Vg (V)	-1		100%	
	Adjust Vg to give a light output of .001 candelas on a closed raster									
e	4	800	ditto	800	Adjust	(1) Line width (mm)	-	0.8	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 will be measured at the centre of the trace.					(2) Focussing voltage (V)	50	175	5% (10)	
f	4	800	Any convenient value	800	-20	GRID INSULATION Leakage current (μA) Increase in voltmeter reading	 - -	 4 100%	 100% 100%	
g	4	800	Adjust for optimum focus	800	Any convenient value	DEFLECTION SENSITIVITIES (1) X-plate (2) Y-plate	 80/Va3 80/Va3	 120/Va3 120/Va3	100%	
h	4	800	ditto	800	ditto	Deviation of spot from centre of Screen (mm)	-	3	100%	
j	4	800	ditto	800	ditto	USEFUL SCREEN AREA Diameter (mm)	 30	 -	 100%	
	Deflection to cover the stated circle centred on the centre of the screen									
k	4	800	ditto	800	ditto	Angle between X and Y axes of deflection	85°	95°	100%	
m	4	800	ditto	800	ditto	Orientation of Y axis of deflection	-	10°	100%	
	Angle measured relative to axis O-O' (drawing, page 3)									
n	4	800	ditto	800	Varied	Spot movement (mm)	-	0.5	5%(20)	
	Resistor - 5 megohms in each deflector lead Vg varied from working brightness to cut-off									

CV1522





VIEW OF UNDERSIDE OF BASE

ALL DIMENSIONS IN MILLIMETERS

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION CV.1522 ISSUE 5 DATED 12.6.1953

AMENDMENT NO. 1

Page 2

Clause "b" Ih Limits:-

DELETE: MIN. 0.95
INSERT: MIN. 0.85

T.V.C. for
R.A.E.

November, 1963

NP.152576

14/7/64