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

VALVE ELECTRONIC **CV1131**

Specification MOSA/CV1131
Issue 3 Dated 20.6.1953
To be read in conjunction with K.1001

SECURITY	
Specification	Valve
UNCLASSIFIED	UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Cathode Ray Tube

TYPE OF DEFLECTION - Electrostatic, suitable for symmetrical deflection

BULB - Internally coated with conductive coating

SCREEN - GGN35

PROTOTYPE - VCR131

MARKING

See K.1001/4

BASE

12 side-contact type

CONNECTIONS

Pin	Electrode
1	C
2	G
3	H
4	H
5	No connection
6	A2
7	No connection
8	Y2
9	X2
10	A3
11	X1
12	Y1

RATINGS

			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.0	
Max. Final Anode Voltage	(KV)	5.0	
X-deflection Sensitivity	(mm/V)	900/Va3	
Y-deflection Sensitivity	(mm/V)	900/Va3	
Desirable Spot Size	(mm)	0.75	

TYPICAL OPERATING CONDITIONS

Final Anode Voltage	(KV)	4.0
Second Anode Voltage	(V)	800
Grid Voltage	(V)	-18
Cut-Off Voltage	(V)	-33
Beam Current	(μA)	20

DIMENSIONS

See Drawing on page 4

NOTES

A. A magnetic shield shall be supplied fitted to the tube and shall be such as to provide adequate screening from external magnetic fields.

B. When viewing the screen with the tube positioned such that the base spigot is uppermost, a positive voltage applied to the terminal X_1 shall deflect the spot to the right, and a positive voltage applied to the terminal Y_1 shall deflect the spot downwards.

Z.4870.R.

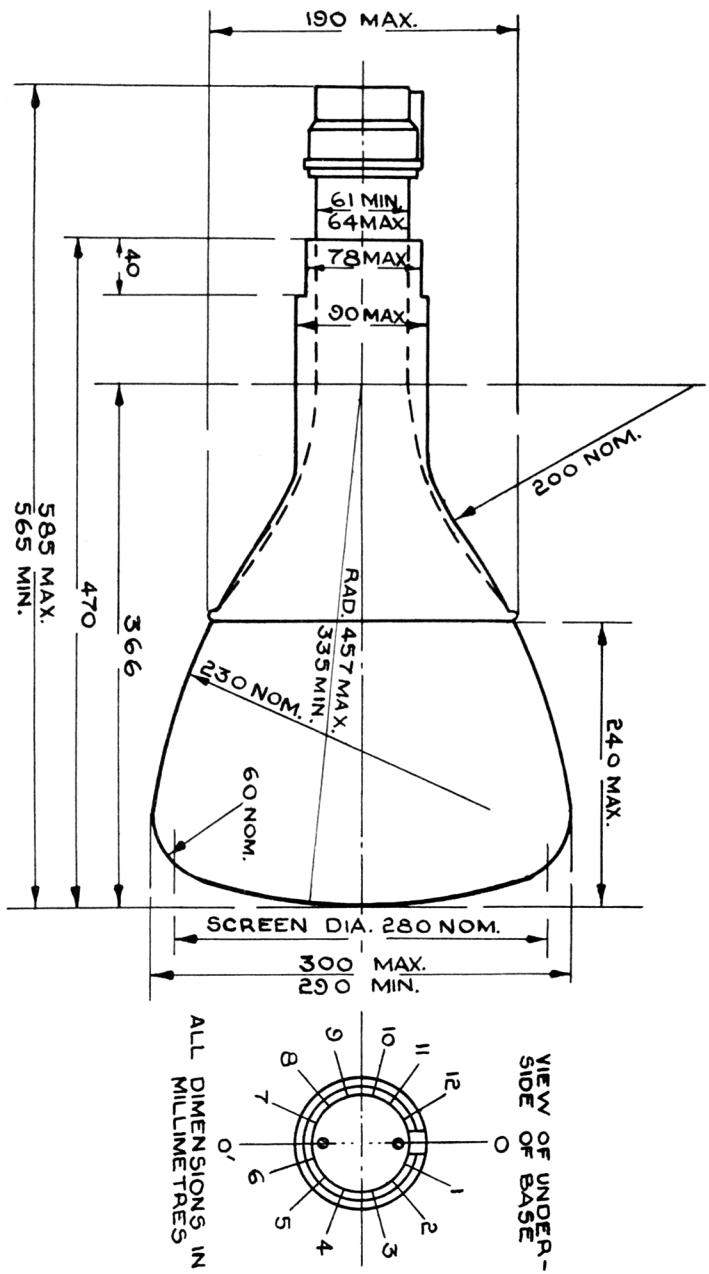
To be performed in addition to those applicable in K.1001

	Test Conditions				Test	Limits Min.	Limits Max.	No. Tested	Note
a	See K.1001/5A.13				CAPACITANCES (pF) 1. Each X or Y plate to all other electrodes. 2. Grid to all other electrodes. 3. One X to one Y plate.	 - - -	 20 20 5	 5% (10)	
	Vh	Va3 (KV)	Va2	Vg					
b	4.0	0	0	0	Ih (A)	.75	1.2	100%	
c	4.0	4.0	Adjust for optimum focus	Adjust to cut off	Vg (V) Value to be noted	-23	-60		
d	4.0	4.0	ditto	-	(i) Vg (V)	-3			
	Vg adjusted to give a brightness of 1.0 foot lambert, on a scan size of 210 x 100 mms				(ii) Change in value of Vg from test (c) (V)	-	25	100%	
e	4.0	4.0	ditto	-	(i) Line width (mms)	-	.8	100%	
	DEFLECTION With a sine wave time base of 10 Kc/s nom. and a line length of 210 mm in the X and 100 mm in the 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 d(ii), the nominal value of pulse duration and recurrence being 100 μ secs and 100 c/s.				(ii) Va2 (V)	600	1200	100%	
f	4.0	4.0	ditto	Any convenient value	(i) Grid leakage current (μA)	-	6.0	100%	
	Recommended method See K.1001/5A.3.2. 10 megohm resistor to be inserted				(ii) Increase in voltmeter reading	-	100%		

TESTS (Contd.)

CV1131

	Test Conditions				Test	Limits		No. tested	Note
	Vh	Va3 (KV)	Va2	Vg		Min.	Max.		
g	4.0	4.0	Adjust for optimum focus	Any Convenient value	DEFLECTION SENSITIVITIES				
					1. X-plate (mm/V)	500/Va3	1250/Va3	100%	
					2. Y-plate	550/Va3	1250/Va3		
h	4.0	4.0	ditto	ditto	Deflection of spot from centre of screen (mm)	-	25	100%	
j	4.0	4.0	ditto	ditto	USEFUL SCREEN AREA				
					1. X-deflection (mm)	±105	-	100%	
					2. Y-deflection (mm)	±50	-		
k	4.0	4.0	ditto	ditto	Orientation of axis of deflection				
	Angle measured relative to axis 00' on drawing on Page 4.				1. Y axis	-	±10%	100%	
l	4.0	4.0	ditto	ditto	Angle between X and Y axes	88°	92°	100%	
m	4.0	4.0	ditto	-	Life Test				
	Normal beam current and continuous spot movement over a raster 210 mm x 100 mm				Life (hours)	1000		1%	


190 MAX.
61 MIN.
64 MAX.
78 MAX.
90 MAX.
40
200 NOM.
585 MAX.
565 MIN.
470
366
RAD. 457 MAX.
335 MIN.
230 NOM.
240 MAX.
60 NOM.
SCREEN DIA. 280 NOM.
300 MAX.
290 MIN.
ALL DIMENSIONS IN MILLIMETRES
VIEW OF UNDER-SIDE OF BASE
0
1
2
3
4
5
6
0'
7
8
9
10
11
12