

Specification MOSA/CV1131 Issue 3 Dated 20.6.1953 To be read in conjunction with K.1001		<u>SECURITY</u>	
		<u>Specification</u>	<u>Valve</u>
		UNCLASSIFIED	UNCLASSIFIED
→ Indicates a change			
TYPE OF VALVE - Cathode Ray Tube		<u>MARKING</u>	
TYPE OF DEFLECTION - Electrostatic, suitable for symmetrical deflection		See K.1001/4	
BULB - Internally coated with conductive coating		<u>BASE</u>	
SCREEN - GGN35		12 side-contact type	
PROTOTYPE - VCR131		<u>CONNECTIONS</u>	
<u>RATINGS</u>		Pin	Electrode
		Note	
Heater Voltage	(V) 4.0	1	C
Heater Current	(A) 1.0	2	G
Max. Final Anode Voltage	(KV) 5.0	3	H
X-deflection Sensitivity	(mm/V) 900/Va3	4	H
Y-deflection Sensitivity	(mm/V) 900/Va3	5	No connection
Desirable Spot Size	(mm) 0.75	6	A2
<u>TYPICAL OPERATING CONDITIONS</u>		7	No connection
Final Anode Voltage	(KV) 4.0	8	Y2
Second Anode Voltage	(V) 800	9	X2
Grid Voltage	(V) -18	10	A3
Cut-Off Voltage	(V) -33	11	X1
Beam Current	(μA) 20	12	Y1
		<u>DIMENSIONS</u>	
		See Drawing on page 4	
<u>NOTES</u>			
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.			

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

	Test Conditions				Test	Limits		No. Tested	Note
						Min.	Max.		
a	See K.1001/5A.13				<u>CAPACITANCES</u> (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	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) (ii) Change in value of Vg from test (c) (V)	-3			
	Vg adjusted to give a brightness of 1.0 foot lambert, on a scan size of 240 x 100 mms					-	25	100%	
e	4.0	4.0	ditto	-	(i) Line width (mms) (ii) Va2 (V)	-	.8	100%	
	<u>DEFLECTION</u> 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. <u>GRID</u> 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 q/s.					600	1200	100%	
f	4.0	4.0	ditto	Any convenient value	(i) Grid leakage current (μA) (ii) Increase in voltmeter reading	-	6.0	100%	
	Recommended method See K.1001/5A.3.2. 10 megohm resistor to be inserted								

	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	<u>DEFLECTION SENSITIVITIES</u> 1. X-plate (mm/V) 2. Y-plate	500/Va3 550/Va3	1250/Va3 1250/Va3	100%	
h	4.0	4.0	ditto	ditto	Deflection of spot from centre of screen (mm)	-	25	100%	
j	4.0	4.0	ditto	ditto	<u>USEFUL SCREEN AREA</u> 1. X-deflection (mm) 2. Y-deflection (mm)	+105 +50	- -	100%	
k	4.0	4.0	ditto	ditto	Orientation of axis of deflection 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	-	<u>Life Test</u> Life (hours)	1000		1%	
	Normal beam current and continuous spot movement over a raster 210 mm x 100 mm								

