

Specification MOSA/CV1518 Issue 5 Dated 5.7.56 To be read in conjunction with B.S.448, B.S.1409 and K.1001.	<table border="1"> <tr> <th colspan="2">SECURITY</th></tr> <tr> <th>Specification</th><th>Valve</th></tr> <tr> <td>UNCLASSIFIED</td><td>UNCLASSIFIED</td></tr> </table>	SECURITY		Specification	Valve	UNCLASSIFIED	UNCLASSIFIED
SECURITY							
Specification	Valve						
UNCLASSIFIED	UNCLASSIFIED						

→ Indicates a change

TYPE OF VALVE - Cathode Ray Tube			<u>MARKING</u> See K.1001/4	
TYPE OF DEFLECTION - Electrostatic, Split Beam. y Plates suitable for asymmetrical deflection only, x plates suitable for both asymmetrical and symmetrical deflection.			<u>BASE</u> B.S.448/B12B	
TYPE OF FOCUS - Electrostatic			<u>CONNECTIONS</u>	
BULB - Glass, unmetallised and uncoated				
SCREEN - BB3 or GG3. When green the screen shall be copper activated zinc sulphide				
PROTOTYPES - 09, VCR518				
<u>RATING</u>			Note	
Heater Voltage	(V)	4		
Heater Current	(A)	1.1		
Max. Third Anode Voltage	(kV)	2	A	
Max. Grid Voltage	(V)	-500		
x-plate sensitivity	(mm/V)	558/Va3	C	
Each y-plate sensitivity	(mm/V)	370/Va3	C	
<u>TYPICAL OPERATING CONDITIONS</u>				
Second Anode Voltage	(V)	345		
Third Anode Voltage	(kV)	1.2	A	
Hood (a4) Anode Voltage	(kV)	1.23	B	
Modulator Voltage	(V)	-14		
Cathode Current	(μA)	135		
Beam Current	(μA)	15		
			<u>DIMENSIONS</u> See drawing on page 4.	

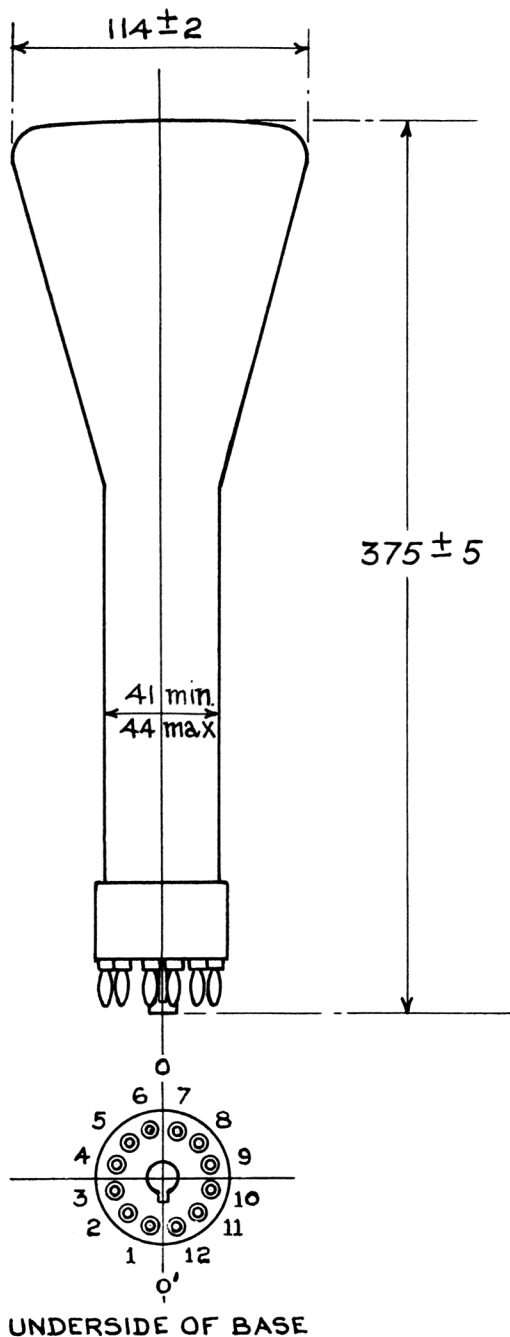
NOTES

- The tube shall be of three anode construction with the first anode connected internally to the third anode.
- The hood a4 is an internal electrostatic shield around the deflecting system.
- Viewing the screen of the tube with the key on the base downwards, a positive potential applied to Pin x1 shall deflect both spots to the left, a positive potential applied to Pin y1 shall deflect one spot upwards, and a positive potential applied to Pin y2 shall deflect the other spot downwards.

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

Test Conditions		Test		Limits		No. Tested	Note	
				Min.	Max.			
For the following Tests a4 shall be connected to a3, and any deflection voltages applied to the x-plates shall be applied asymmetrically. The beam current shall be measured in the a4 lead.								
	Vh	Va3 (kV)	Va2	Vg				
a	4	0	0	0	Ih (A)	1	1.25	5%(1)
b	4	1.2	-	To give Ib=10μA	Va2 (V)	200	400	5%(1)
c	4	1.2	-	Varied from zero to value for cut off	Variation in value of Va2 for optimum focus over the stated range of Vg (V)	-	20	100%
d	4	1.2	Adjust for optimum focus	Adjust to give cut off of both beams	-Vg (V)	-	35	100%
e	4	1.2	ditto	Adjust to give cut off of each beam in turn	Difference in value of Vg for cut off of each beam (V)	-	4	100%
f	4	1.2	ditto	Adjust Vg to give a light output of .004 candelas on a close raster.	-Vg (V)	3	30	100%
g	4	1.2	ditto	Adjust DEFLECTION with a sine-wave time base of 10 kc/s nom. and line length of 30 mm. in the x and y directions successively, the line width to be measured at the centre of the trace.	(1) Line width shall not be greater than that of a standard tube over the useful screen area.			100%
h	4	1.2	ditto	-30 See K.1001/5A.3.2 Resistor = 1 Megohm.	GRID INSULATION Leakage current (μA) Increase in voltmeter reading	- -	30 100%	100% 100%
j	4	1.2	ditto	Any convenient value	DEFLECTION SENSITIVITIES (1) x-plate (mm/V) (2) Each y-plate (mm/V)	500/Va3 310/Va3	616/Va3 430/Va3	5%(1) 5%(1)

Test Conditions					Test	Limits		No. Tested	Note
						Min.	Max.		
	Vh	Va3 (kV)	Va2	Vg					
k	4	1.2	Adjust for optimum focus	Any convenient value	(1) x deflection (mm) (2) y2 deflection (mm) (3) y1 deflection (mm)	+40 +30 +30	- - -	100% 100% 100%	
Deflections measured from the centre of the screen (2) y1 plate joined to a3 (3) y2 plate joined to a3									
l	4	1.2	ditto	ditto	Origin distortion, as indicated by the presence of a bright cross in the centre of the screen, shall be negligible.			5%(1)	
Deflection voltages to give a close raster.									
m	4	1.2	ditto	ditto	(1) Angle between x and y axes. (2) Angle between x and y axes.	85° 85°	95° 95°	5%(1) 5%(1)	
(1) y1 plate joined to a3 (2) y2 plate joined to a3									
n	4	1.2	ditto	ditto	<u>ORIENTATION OF AXES OF DEFLECTION</u> y axis	-	±20°	100%	
Angle measured relative to axis O-O' shown in drawing.									
o	4	1.2	ditto	ditto	(1) Deflection of y1 trace as a percentage of maximum y2 displacement (2) Deflection of y2 trace as a percentage of maximum y1 displacement.	- -	2% 2%	100% 100%	
(1) Saw tooth deflection voltages applied to x plate and to y2 plate, y1 plate joined to a3. (2) Saw tooth deflection voltages applied to x plate and to y1 plate, y2 plate joined to a3.									



ALL DIMENSIONS IN MILLIMETRES