

Specification MOSA/CV1589/CV1590 Issue 6 Dated 1.11.54 To be read in conjunction with B.S.448, B.S.1409 & K1001	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> 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 - CV1589 - GGM27 or YIM36 CV1590 - GGM26 or WWM42 or OOM52 PROTOTYPES - CV1589 - VCR511A CV1590 - VCR511B			<u>MARKING</u> See K1001/4	
			<u>BASE</u> B.S.448/B12D	
			<u>CONNECTIONS</u>	
<u>RATING</u>			Pin	Electrode
Heater Voltage (V)	4.0	Note	1	k
Heater Current (A)	1.0		2	g
Max. Final Anode Voltage (kV)	6.5		3	h
x-plate Sensitivity (mm/V)	1000/Va3		4	h
y-plate Sensitivity (mm/V)	1000/Va3		5	N.C
			6	a2
<u>TYPICAL OPERATING CONDITIONS</u>			7	N.C.
Final Anode Voltage (kV)	4.0	8	2	
Second Anode Voltage (V)	800	9	r2	
Beam Current (μA)	20	10	a3	
			11	r1
			12	y1
			<u>DIMENSIONS</u> See Drawing on Page 3	
<u>NOTES</u>				
A. A magnetic shield shall be supplied fitted to the valve and be such as to provide adequate screening from internal magnetic field.				
B. When viewing the screen with the valve positioned such that the base spigot is uppermost, a positive voltage applied to the terminal r1 shall deflect the spot to the right, and a positive voltage applied to the terminal y1 shall deflect the spot downwards.				

To be performed in addition to those applicable in K1001

Test Conditions					Test	Limits		No. Tested
						Min.	Max.	
a	Vh	Va3 (kV)	Va2	Vg	<u>INTER-ELECTRODE CAPACITANCES (pF)</u> 1. Each r or y plate to all other electrodes 2. Grid to all other electrodes 3. One r to one y plate			5% (10)
	See K1001/5A.13							
b	4.0	0	0	0	Ih (A)	0.75	1.2	100%
c	4.0	4.0	Adjust for optimum focus	Adjust	-Vg (V)	1	-	100%
Adjust Vg to give a light output of .01 candles on a closed raster.								
d	4.0	4.0	ditto	Adjust to cut-off	(1) -Vg (V)	23	60	100%
					(2) Change in value of Vg from test (c) (V)	-	25	100%
e	4.0	4.0	ditto	Adjust	(1) Line width (mm)	-	0.8	100%
					(2) Va2 (V)	600	1200	100%
<u>DEFLECTION</u> With a sine wave time base of 10 kc/s (Nominal) and a line length of 200 mm in the x and 200 mm in the y directions successively. <u>GRID</u> The grid will be pulsed positively from cut-off with amplitude equal to the value of test d (2), the nominal value of pulse duration and recurrence being 100 μ secs and 100 c/s respectively.								
f	4.0	4.0	Any convenient value	-60	<u>GRID INSULATION</u> 1. Leakage Current (μA) 2. Increase in voltmeter reading	-	6.0	100%
Recommended Method K1001/5A.3.2. Resistor = 10 Megohms								
g	4.0	4.0	Adjust for optimum focus	Any convenient value	<u>DEFLECTION SENSITIVITIES</u> 1. x - plate (mm/V)	750/ Va3	1250/ Va3	10% (10)
					2. y - plate (mm/V)	750/ Va3	1250/ Va3	10% (10)
h	4.0	4.0	ditto	ditto	Deviation of spot from centre of screen (mm)	-	25	100%

Test Conditions					Test	Limits		No. Tested
Vh	Va3 (kV)	Va2	Vg	Min.		Max.		
j	4.0	4.0	Adjust for optimum focus	Any convenient value	<u>USEFUL SCREEN AREA</u> 1. ϵ deflection (nm) 2. γ deflection (nm)	± 0.5 ± 50	-	100% 100%
Deflections measured from centre of screen								
k	4.0	4.0	ditto	ditto	1. Orientation of ϵ axis of deflection relative to OO' on drawing. 2. Angle between ϵ and γ axes of deflection	80° 85°	100° 95°	100% 100%
l					The screen shall not be worse for graininess and non-uniformity than a standard tube or pattern.			100% ←
m	Test to be carried out in Test Set 311				Afterglow (secs)	15	-	10% ←

