

<p>Specification MOS/CV2447 Issue 1</p> <p>Dated:- February, 1958</p> <p>To be read in conjunction with K1001 and BS448</p>	<p><u>SECURITY</u></p> <table border="1"> <tr> <td><u>Specification</u></td><td><u>Valve</u></td></tr> <tr> <td>Unclassified</td><td>Unclassified</td></tr> </table>	<u>Specification</u>	<u>Valve</u>	Unclassified	Unclassified
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————— Indicates a change

<p><u>TYPE OF VALVE:-</u> Cathode Ray tube</p> <p><u>TYPE OF DEFLECTION:-</u> Magnetic</p> <p><u>TYPE OF FOCUS:-</u> Magnetic</p> <p><u>SCREEN:-</u> BB1 Aluminium Backed</p> <p><u>PROTOTYPE:-</u> X9</p>	<p><u>MARKING</u></p> <p>See K1001/4</p> <p><u>BASE</u></p> <p>BS.448. B12A</p> <p>With metal shell</p>
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<u>RATING</u>	Note	<u>CONNECTIONS</u>	
		<u>Pin</u>	<u>Electrode</u>
Heater Voltage (V)	6.3	1	h
Heater Current (A)	0.6	2	g
Max. First Anode Voltage (V)	600	3	No pin
Min. First Anode Voltage (V)	250	4	No pin
Max. Final Anode Voltage (kV)	15	5	No pin
Min. Final Anode Voltage (kV)	9	6	Internal Connection
Max. Heater-Cathode Voltage (V)	150	7	Internal Connection
Max. Beam Current (uA)	50	8	No pin
		9	No pin
		10	a ₁
<u>TYPICAL OPERATING CONDITIONS</u>		11	k
First Anode Voltage (V)	600	12	h
Final Anode Voltage (kV)	15	Side	a ₂
Max. grid Voltage for cut-off	-160	Contact	

<p><u>CAPACITANCES</u></p> <p>Max. Cg. to all other electrodes (pf) 12</p> <p>Max. Ck to all other electrodes (pf) 12</p>	<p><u>SIDE CONTACT</u></p> <p>BS.448. CT 1.</p>
	<p><u>DIMENSIONS</u></p> <p>See drawing, page 5</p>

NOTES

- A. Absolute maximum value.
- B. Heater current may be between 0.3 and 0.6 amp. nominal.
- C. Heater negative to cathode.

To be performed in addition to those applicable in K1001

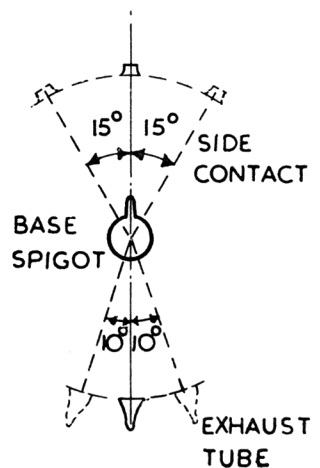
	Test Conditions	Tests	Limits		No. Tested
			Min.	Max.	
a	See K1001/5A.13.	<u>Capacitances</u> (pf) Grid to all other electrodes Cathode to all other electrodes	-	12	5%(20) 5%(20)
FOR ALL TESTS GIVEN BELOW $V_h = 6.3$ Volts					
b		Heater Current (A)	0.28	0.66	100%
FOR ALL TESTS GIVEN BELOW, EXCEPT CLAUSES "k" and "l", $V_{a1} = 600V$; $V_{a2} = 15$ kV					
c	Adjust for optimum focus. Adjust V_g for cut-off. See K1001/5A.10.	<u>Grid Base</u> - V_g (V)	55	160	100%
d	Adjust V_g to give a light intensity of 0.06 "orthochromatic candela," using a focussed raster of convenient size. See Note 1 and K1001/5A.9.	<u>Light Intensity and Grid Drive</u> 1. Change in V_g from value (V) found in test "c". 2. The beam current shall increase smoothly from cut-off to that required for 0.06 "orthochromatic candela".		20	100% 100%
e	Focus adjusted for optimum. Linear line scan of length 250 mm. and 100 μs duration. (i) Grid, +ve drive from cut-off by 100 μs pulse and amplitude as found in test "d1" at 100 P.P.S. <u>OR</u> (ii) Using an interlaced 405 line T.V. raster with the frame scan expanded to facilitate line width measurement, D.C. +ve grid drive from cut-off as found in test "d1".	<u>Line Width</u> measured at the centre of the trace (mm) (i) (ii)		0.3 0.25	100%
f	(i) $V_g -160V$ <u>OR</u> (ii) See K1001/5A.3.2. Resistor 10 megohm	<u>Grid Insulation</u> (i) Leakage current (μA) <u>OR</u> (ii) Increase in voltmeter reading.	-	16 100%	100%
g	A voltage of 160V shall be applied between heater and cathode. See K1001/5A.3.3.	<u>Heater-Cathode Leakage</u> Leakage current (μA)	-	160	100%

To be performed in addition to those applicable in K1001

	Test Conditions	Tests	Limits		No. Tested
			Min.	Max.	
h	Adjust for optimum focus and any convenient light intensity with a raster scan to cover the whole screen area.	<u>Useful Screen Area</u> Diameter on the geometric centre of the screen (mm)	250		100%
j	No focussing or deflecting fields 1. V_g any convenient value 2. Grid pulsed 100 μ S, 25 to 100 p.p.s. Amplitude as found in test "d1".	1. Deviation of the spot from the centre of the screen (mm) 2. Unfocussed spot diameter (mm)	-	15 12	100% 5% (20)
k	V_{a2} 18kV. V_{a1} 600V V_g -200V. Preheat cathode at $V_h = 6.3V$ for 10 minutes. The tube to be held with the screen horizontal and uppermost. Focus field as in clause "e". The tube to be viewed for 10 seconds in a dark box or room whilst the neck of the tube is tapped with an approved forked rubber covered wooden hammer at a minimum of 4 taps per second.	<u>Flash Over and Stray Emission</u> Any flashover or stray emission can be ignored during the first five seconds when any emission should be deflected off the screen. During the remaining five seconds, when there should be no deflecting field the tube shall be rejected if flashover or stray emission appears.			100%
l	V_h 6.3V V_{a1} 300V V_{a2} -20V Adjust V_g for I_k any convenient value i.e. 400 to 1,000 μ A.	<u>Gas Ratio</u> The ratio $\frac{I_{a2} \mu A}{I_k \mu A}$	-	2×10^{-4}	100%
m	With a defocussed raster covering the useful screen area. See note 2.	<u>Blemishes.</u> (Stones, Bubbles and Screen Defects) Above 1.0 mm. diameter 1.0 mm to 0.6 mm. dia. 0.6 mm. to 0.3 mm. dia. Spacing between blemishes. (mm)	None 20	7 15	100%
n	Adjust V_g for cut-off With no deflecting field grid to be pulsed positively by the drive value founded in test "d.1". at a pulse length of 10 μ S and repetition frequency of 10kc/s. Adjust focus coil current to give a defocussed spot of 5 mm. dia. approx.	<u>Afterglow.</u> (μ Sec.) Decay time to 30% of the excitation level.		4	5% (5)

NOTES

1. The lamp used for the calibration of the photocell - OB8 filter combination shall have a colour temperature of $2600 \pm 50^{\circ}\text{K}$.
2. If two or more blemishes, including those below 0.3 mm. are separated by a distance not greater than the maximum dimension of the largest blemish in the group, then the group of blemishes shall be considered as one blemish of dimension equal to the maximum overall dimension of the group.



RING GAUGE (mm)	DISTANCE FROM CENTRE OF SCREEN (mm)
280	93 ± 10
230	150 ± 9
180	191 ± 8
130	222 ± 7
80	249 ± 6
36.1	272 ± 3.5

ALL DIMENSIONS IN MM.