

MINISTRY OF SUPPLY (ARDE)VALVE ELECTRONIC**CV2467**

Specification M.O.S. C.V.2467			<u>SECURITY</u>	
Issue:- No. 1 dated 2.6.58.			<u>Specification</u> <u>Valve</u>	
To be read in conjunction with K1001			<u>Unclassified</u> <u>Unclassified</u>	
<p>—————> Indicates a change</p>				
<u>TYPE OF VALVE:-</u> Cathode Ray Tube <u>TYPE OF DEFLECTION:-</u> Electrostatic (Y plates only) Symmetrical, and magnetic. <u>TYPE OF FOCUS:-</u> Magnetic <u>SCREEN:-</u> BB2 (Aluminised)			<u>MARKING</u> See K1001/4 <u>BASE</u> I.O. <u>CONNECTIONS</u>	
<u>RATING</u> Heater Voltage (V) 4.0 Heater Current (A) 1.0 Max. Final Anode Voltage (kV) 15.0 Max. Heater/Cathode Voltage (V) 200		Note	<u>Pin</u> <u>Electrode</u> 1 No connection 2 Heater 3 Pin omitted 4 Pin omitted 5 Grid 6 Pin omitted 7 Heater 8 Cathode S.C. Anode	
<u>TYPICAL OPERATING CONDITIONS</u> Final Anode Voltage (kV) 10 Deflection Sensitivity (mm/V) 0.25				
<u>CAPACITANCES (pF)</u> Y1 - Y2 3.2 Either Plate to Anode 5.0 Grid to all other electrodes 9 Cathode to all other electrodes 9			Side Arm Contacts - Y Deflector Plates <u>Side Contacts</u> See K1001/A1/D5.1 <u>Dimensions</u> See Drawing Page 5.	
<u>NOTES</u> A. Absolute Maximum Value. B. The focussing requirements and the amount of deflection defocussing will be checked on the Type Approval samples. After Type Approval has been granted, the construction of the tubes must remain as in the Approved samples.				

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TESTS

To be performed in addition to those applicable in K1001

	Test Conditions	Test	Limits		No. Tested
			Min.	Max.	
a	See K1001/5.A.13.	<u>Capacitances (pF)</u> 1. Y1 plate to Y2 plate 2. Each Y plate to anode 3. Grid to all other electrodes 4. Cathode to all other electrodes	- - - -	5.0 8.0 13 12	10% (2)

FOR ALL FURTHER TESTS $V_h = 4.0$ Volts.

b		<u>Heater Current</u> I_h (A)	0.9	1.1	100%
c	+ 200 volts Heater to cathode	<u>Heater-Cathode Current</u> (μA)	-	100	100%

FOR ALL FURTHER TESTS $V_a = 10kV$ - ANODE TO BE AT EARTH POTENTIAL ADJUST RING MAGNET AT REAR OF CATHODE FOR FULL ILLUMINATION OF ANODE APERTURE (NO FOCUSING FIELD PRESENT)

d	See K1001/5 A.11.1.	<u>Deviation of Unfocused Spot from centre of screen</u> (mm)	-	5	100%
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FOR ALL FURTHER TESTS ADJUST FOCUS COIL TO POSITION FOCUSED SPOT IN CENTRE OF UNFOCUSED SPOT AREA

e	Adjust V_g for cut off See K1001/5 A.10	<u>Grid Cut-off Voltage $-V_g$</u> (V)	110	170	100%
f	With a 200 line close raster of convenient size adjust V_g for a light intensity of 0.25 orthochromatic candela. See K1001/5.A.9. and Note 1.	<u>Light Output Anode current</u> (μA)	-	5	100%
g	With screen fully illuminated by close raster adjust V_g for 25 μA X See K1001/5.A.18.	1. Change of V_g from cut-off clause (e) (V) 2. Beam current (μA)	17 5	25 10	100% 100%
h	With screen fully illuminated by close raster adjust V_g to near cut-off. See K1001/5.A.12.	1. <u>Useful Screen Area</u> Y Axis (mm) X Axis (mm)	± 23.5 ± 23.5	- -	100% 100%

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TESTS (Contd.)

	Test conditions	Test	Limits		No. Tested
			Min.	Max.	
j	With a defocussed raster to cover useful screen area. See Note 2.	<u>Blemishes</u> Glass bubbles and screen dead spots (nm)	-	0.25	100%
k	With a 10 kc/s line of length 65 mm the line width shall be measured at the centre of the trace. The grid shall be pulsed positively from cut-off with amplitude equal to the value obtained in test (g1) The nominal value of pulse duration 100 μ secs recurrence rate 50 c/s.	<u>Line Width</u> (mm)	-	0.3	100%
l		<u>Deflection Sensitivity</u> Y plate (mm/V)	0.24	0.26	100%
m	See K1001/5.A.3.2. (a) $V_g = -200V$ (b) Alternative method resistor = 25 Mohms	<u>Grid Insulation</u> (a) Leakage current (μA) (b) Increase in voltmeter reading	- -	8 100%	100%
n	With control grid adjusted To value obtained in Clause (e)	<u>Anode Leakage</u> (μA)	-	0.5	100%
o	With a focussed raster to cover useful screen area anode current = 5 μA .	<u>Deflection Distortion</u> Angle between opposite sides "Parallel" to Y Plates	179°	181°	100%
p	With focussed raster to cover useful screen area anode current = 25 μA . See Note 3.	<u>Focus Coil Current</u> (mA)	12	16	T.A.
<p style="text-align: center;"><u>NOTES</u></p> <p>1. Beam current (I_b) is defined as the current flowing to the anode via. the external link from the screen metallising. Beam current can be measured by replacing this link with a microammeter.</p> <p>Anode current (I_a) is the sum of the Beam current and that appearing in the anode. It is measured in the anode lead.</p>					

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NOTES (Contd.)

2. Bubbles smaller than 0.2 mm diameter can be ignored unless in sufficient concentration to produce perceptible cloudiness.

Bubbles and blemishes > 0.2 mm dia. and < 0.25 mm dia. must not be closer than 5 mm to each other and not more than 5 to be present in any area of 10 mm radius.
3. The face of the focus coil is positioned 92 mm. from the 36 mm Ring Gauge reference line (A - A). Use focus coil type GAC/3621/D.
4. Test A.2. Capacitance of Y Plate to Anodes measurement should be carried out after the external aquadag coating has been applied.

