

CV 1517
VCR517
&A-E

Specification MAP/CV1517; CV1591; CV1592; CV1593; CV1594; CV1595/Issue 4 Dated 15.6.45 To be read in conjunction with K.1003	<table border="1"> <tr> <th colspan="2">SECURITY</th></tr> <tr> <td>Specification</td><td>Tube</td></tr> <tr> <td>RESTRICTED</td><td>RESTRICTED</td></tr> </table>	SECURITY		Specification	Tube	RESTRICTED	RESTRICTED
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Specification	Tube						
RESTRICTED	RESTRICTED						

<u>TYPE OF DEFLECTION</u>	- Electrostatic, suitable for either symmetrical or asymmetrical operation.	<u>MARKING</u>
<u>TYPE OF FOCUS</u>	- Electrostatic	VCR517 VCR517A VCR517B 10CV/1517 10CV/1591 10CV/1592
<u>BULB</u>	- Internally coated with conductive coating	VCR517C VCR517D VCR517E 10CV/1593 10CV/1594 10CV/1595
<u>SCREEN</u>	- Afterglow. VCR517 - BYM44 or YIM5 VCR517A - YIM5 VCR517B - YIM36 VCR517C - GCM7 VCR517D - GCM27 VCR517E - YIM31	

RATING		Note	BASE 12 contact key base	
Heater Voltage (Volts)	4.0	A	CONNECTIONS	
Heater Current (amps)	1.0		Pin	Electrode
Maximum Final Anode Voltage (kV)	6.0		1	G
Maximum First Anode Voltage (kV)	2.0		2	C
'X' Plate Sensitivity (mm/v)	$\frac{720}{V_{a3}}$		3	H
	$\frac{880}{V_{a3}}$		4	H
'Y' Plate Sensitivity (mm/v)	$\frac{880}{V_{a3}}$		5	A1
			6	A2
			7	Internal Coating
			8	Y2
TYPICAL OPERATING CONDITIONS				
Final Anode Voltage (kV)	3.0			
Second Anode Voltage (v)	525			
First Anode Voltage (kV)	2.0			
			10	A3
			11	X1
			12	Y1

NOTES

- A :- This rating applies only at normal atmospheric pressure
- B :- The tube shall be adequately free from microphony
- C :- The neck diameter may be reduced provided that rubber rings or other approved packing is supplied with the tube to bring the overall diameter within the stated tolerance.
- D :- When viewing the screen with the tube positioned such that the base spigot is uppermost, a positive voltage applied to the terminal X₁ shall deflect the spot to the left and a positive voltage applied to the terminal Y₁ shall deflect the spot upwards.
- E :- The internal conductive coating shall be of such dimensions that it functions effectively but does not obscure the required useful screen area.

—→ Indicates a change

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TESTS

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To be performed in addition to those applicable in K1003

Clause	Test Conditions					Test	Limits		No. Tested
	Vh	Va (kv)	Va2	Va1 (kv)	Vg		Min.	Max.	
(a)						<u>INTER ELECTRODE CAPACITANCE</u> 1. Each X or Y plate to all other electrodes. 2. Grid to all other electrodes. 3. One X to one Y - plate	-	25	5% (10)
(b)	4.0	0	0	0	0	Ih(A)	0.7	1.3	100%
(c)	4.0	3.0	Adjusted	2.0	Adjusted	1. Line Width 2. Va2(V)	Not greater than standard tube		100%
			Adjust Va2 for optimum focus and Vg to give a spot brilliance equal to that of a standard tube, on a line of length 130 mm in the X and Y directions successively.				375	675	100%
(d)	4.0	3.0	Adjusted for optimum focus	2.0	Adjusted	Vg(V)	To be at least 1V (-)Ve to cathode		100%
			Vg adjusted to give a light output of 0.032 candles on a closed raster.						
(e)	4.0	3.0	ditto	2.0	Adjusted to cut off.	1. Vg(V) 2. Change in value of Vg from test (d)	-	-80	100%
							-	40	100%
(f)	4.0	3.0	Any convenient value	2.0	-80	<u>GRID INSULATION</u> 1. Leakage Current (uA) 2. Increase in voltmeter reading	-	16	100%
			Recommended K1003/5.4.2. Resistor = 5 megohms				-	100%	100%
(g)	4.0	3.0	Adjusted for optimum focus	2.0	Any convenient value	<u>DEFLECTION SENSITIVITIES</u> 1. X plate (mm/V) 2. Y plate (mm/V)	650/Va3 790/Va3	790/Va3 970/Va3	10% (10) 10% (10)
(h)	4.0	3.0	ditto	2.0	ditto	Deviation of spot from centre of screen (mm)	-	10	100%
(j)	4.0	3.0	ditto	2.0	ditto	<u>USEFUL SCREEN AREA</u> Diameter (mm)	130	-	100%
(k)	4.0	3.0	ditto	2.0	ditto	<u>TRAPEZOIDAL DISTORTIONS</u> 1. Angles between adjacent sides. 2. Angles between opposite sides	85° 175°	95° 185°	100% 100%
(l)	4.0	3.0	ditto	2.0	ditto	1. Orientation of X axis of deflection relative to 0.0' on drg. 2. Angle between X & Y axes of deflection	80° 85°	100° 95°	100% 100%
(m)	4.0	3.0	Un-focused	2.0	ditto	The screen shall not be worse for graininess and non-uniformity than a standard tube or pattern.			100%
(n)	4.0	3.0	Adjusted for optimum focus	2.0	ditto	The afterglow characteristic shall be satisfactory when examined by an approved method.			100%

