

CJ1514
VCR514

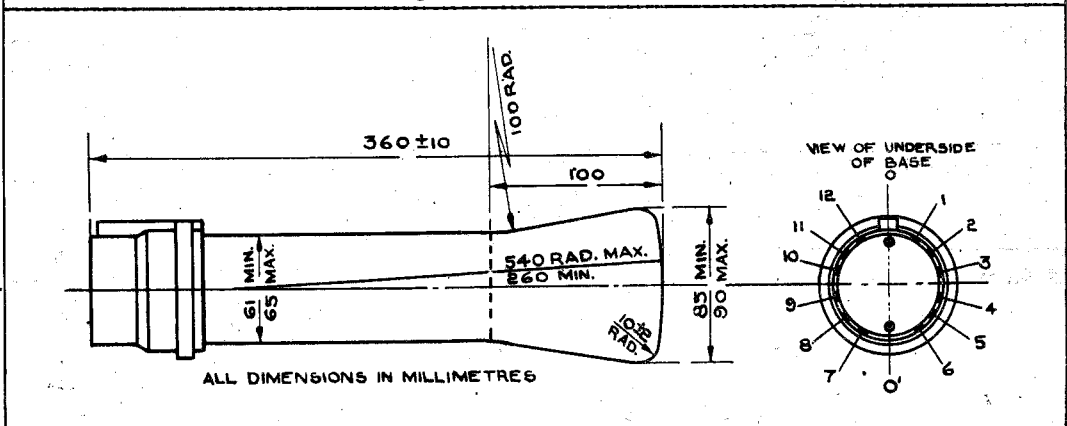
Specification MAF/CV1514/Issue 3 Dated 20.7.45. To be read in conjunction with L.1003.	<u>SECURITY</u>	
	<u>Specification</u> RESTRICTED	<u>Tube</u> RESTRICTED

<u>TYPE OF DEFLECTION</u> - Electrostatic, suitable for symmetrical operation.	<u>MARKING</u>
<u>BULB</u> - Internally coated with conductive coating.	VCR514
<u>SCREEN</u> - GSA1/28/35	CV1514

<u>RATING</u>	<u>NOTE</u>	<u>BASE</u>
Heater Voltage (V)	4.0	12 contact key base.
Heater Current (A)	1.0	
Maximum Final Anode (kV)	2.5	<u>CONNECTIONS</u>
X - plate sensitivity (mm/v)	$\frac{380}{V_{a3}}$	Pin Electrode
Y - plate sensitivity (mm/v)	$\frac{580}{V_{a3}}$	1 G
Maximum peak beam current (μ A)	500	2 C
		3 H
		4 H
		5 A ₁
		6 A ₂
		7 Internal Conductive Coating (See Note E)
		8 Y ₂
		9 X ₂
		10 A ₃
		11 X ₁
		12 Y ₁
<u>TYPICAL OPERATING CONDITIONS</u>		
Final Anode Voltage (kV)	1.6	
Second Anode Voltage (V)	210	
First Anode Voltage (V)	500	

NOTES

- A - No objectionable fluorescence shall be produced at the screen or glass by ultra-violet light of the wavelength transmitted by nickel oxide glass.
- B - The tube shall be adequately free from microphony.
- C - 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.
- D - The internal conductive coating shall be of such dimensions that it functions effectively but does not obscure the required useful screen area.
- E - The tube will normally be operated with A₃ and conductive coating tied, and if a manufacturer so desires, these electrodes may be strapped internally, with the connection omitted from contact marked:- "Internal conductive coating".



→ Indicates a change.

VCR514

TESTS

Page 2

To be performed in addition to those applicable in K.1003.

Clause	Test Conditions					Test	Limits		No. Tested
	V _h	V _{a3} (kV)	V _{a2}	V _{a1} (kV)	V _g		Min.	Max.	
(a)						<u>INTER-ELECTRODE CAPACITANCES (pF)</u> 1. Each X or Y-plate to all other electrodes 2. Grid to all other electrodes 3. One X to one Y-plate	- - -	20 25 15	5%(10) 5%(10) 5%(10)
(b)	4.0	0	0	0	0	I _h (A)	0.8	1.3	100%
(c)	4.0	2.0	Adjust for optimum focus	0.8	Adjust	1. Line Width (mm) 2. V _{a2} (V)	- 150	3 400	100% 100%
	Adjust V _g to give I _b = 500 μA on a line of length 64 mm in the X and Y directions successively.								
(d)	4.0	2.0	ditto	0.8	ditto	V _g (V)	To be at least IV (-)ve to cathode.		100%
	Adjust V _g to give a light output of 0.5 candles on a closed raster.								
(e)	4.0	2.0	ditto	0.8	Adjust to cut off	1. V _g (V) 2. Change in value of V _g from test (d) (V)	- -	-150 70	100% 100%
(f)	4.0	2.0	Any convenient value	0.8	-150	<u>GRID INSULATION</u> 1. Leakage Current (μA) 2. Increase in voltmeter reading	- -	15 100%	100% 100%
	Recommended method:- See K1003/5.4.2 Resistor = 10 megohms								
(g)	4.0	2.0	Adjust for optimum focus	0.8	Any convenient value	<u>DEFLECTION SENSITIVITIES</u> 1. X-plate (mm/V) 2. Y-plate (mm/V) 3. Ratio of X to Y-plate sensitivities	340/V _{a3} 520/V _{a3} 1.31	420/V _{a3} 640/V _{a3} 1.78	10%(10) 10%(10) 100%
(h)	4.0	2.0	ditto	0.8	ditto	Deviation of spot from centre of screen (mm)	-	6	100%
(j)	4.0	2.0	ditto	0.8	ditto	<u>USEFUL SCREEN AREA</u> Diameter (mm)	64	-	100%
	Deflections to cover stated circle centred on centre of screen								
(k)	4.0	2.0	ditto	0.8	ditto	1. Orientation of X axis of deflection relative to 00° on drg. 2. Angle between X and Y axes of deflection.	80° 85°	100° 95°	100% 100%
(l)	4.0	2.0	ditto	0.8	ditto	The brightness of the trace shall increase continuously when V _g is reduced from cut-off to the value found in test (d)	-	-	100%