CV320

VALVE ELECTRONIC

ADMIRALTY SIGNAL & RADAR ESTABLISHMENT.

Specification AD/CV320/Issue 4. Dated 10.4.52. To be read in conjunction with K1001 (1952)	SECURITY Specn. Unclassified	 Valve Unclassified

→ indicates a change

TYPE OF DEFLECTION AND FOCUS:- Electrostatic.

BULB:- Internally coated with conductive coating.

SCREEN:- YY5

PROTOTYPE:- CV967.

MARKING

See K1001/4.1.

RATING			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.1	
Max. Va3	(V)	800	A
X-plate sensitivity	(mm/V)	$\frac{100}{Va3}$	
Y-plate sensitivity	(mm/V)	$\frac{90}{Va3}$	
Desirable spot size	(mm)	1.0	B
Typical Operating Conditions			
Va3	(V)	800	
Va2	(V)	135	
Va1	(V)	800	
Ib	(μA)	3.0	

BASE

B9

Pin	Electrode
1	X1
2	Y1
3	A2
4	H and C
5	H
6	Modulator
7	A1 and A3
8	Y2
9	X2

DIMENSIONS

See Drawing page 3.

NOTES

A. The tube shall be of the three anode construction.

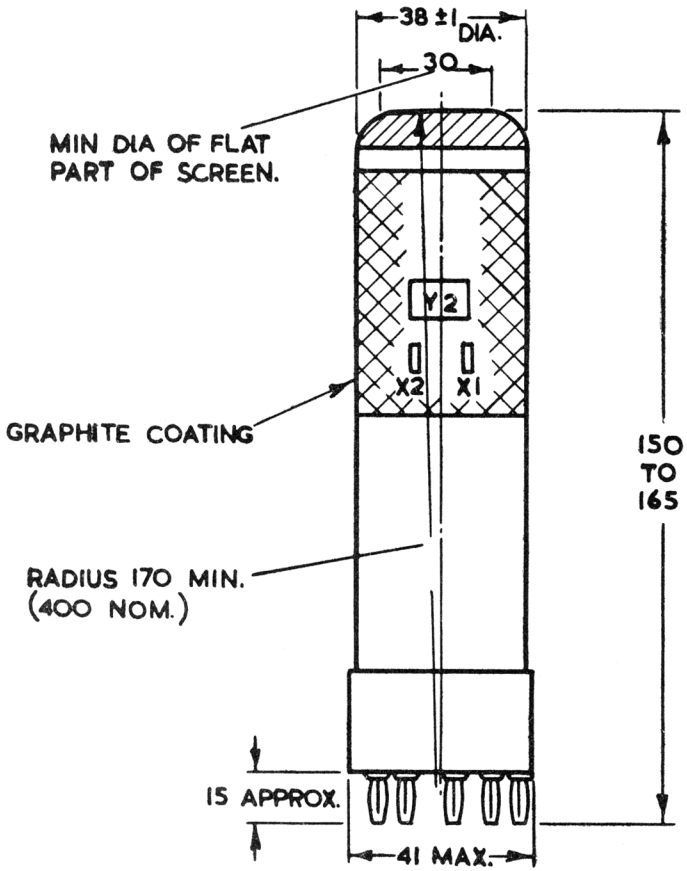
→ B. Focus quality measured as follows:- With Va3 = 800 V and Va2 and Vg adjusted to give an optimum-focus raster of convenient size and of light output 0.002 candela, the positive grid drive from Vg (blackout) is noted (= x). Then, with the beam just "blacked-out", a nominally square wave positive pulse of peak Value x volts and of width 100 μsecs and repetition frequency 100 c.p.s. applied between cathode and grid, and with the high frequency time base set to produce a line 2.5 cms long in the x and y axes successively (with no adjustment of focus between measurements in the two axes), the line width as measured at the centre of the trace must not exceed 1.0 mm.

TESTS

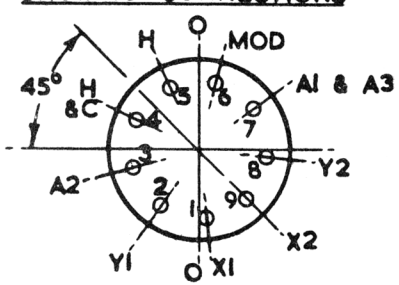
To be performed in addition to those applicable in K1001 (1952)

	Test Conditions					Test	Limits		No. Tested
	Vh (V)	Va3 (V)	Va2 (V)	Va1 (V)	Vg (V)		Min.	Max.	
	Deflection voltages shall be applied symmetrically in all cases								
a						Direct Capacitances (pF) (i) Each X- or each Y-plate to all other electrodes. (ii) Modulator electrode to all other electrodes. (iii) One X- to one Y-plate.	- - -	15 20 5	Type Approval
b	4.0					If (A)	0.95	1.25	5%(10)
c	4.0	800	Adjusted	800	Adjusted	(i) Vg	To be at least 2V-VE to Cathode		100%
	Adjust Vg and Va2 to give a light output of 0.002 candela from an optimum focus raster of convenient size.					(ii) Va2 (V)	50	175	5%(10)
						(iii) Vg (V) Line width to be measured as described in Note C	Not to exceed 1mm at the centre		100%
d	4.0	800	As test 'c'	800	Adjusted	Vg for cut-off (V)	-7	-20	100%
e	4.0	800	As test 'c'	800	Any convenient value	(i) X-plate sensitivity (mm/V) (ii) Y-plate sensitivity (mm/V)	$\frac{80}{Va3}$ $\frac{72}{Va3}$	$\frac{120}{Va3}$ $\frac{108}{Va3}$	5%(10)
f	4.0	800	As test 'c'	800	Any convenient value	Deviation of spot from centre of screen (mm)	-	5	100%
	See K1001/5.A.11.1.								
g	4.0	800	As test 'c'	800	Any convenient value	Minimum useful screen diameter (mm)	30	-	100%
	Deflection to cover the stated circle concentric with the screen.								
h	4.0	800	As test 'c'	800	Any convenient value	Angle between X- and Y-axes of deflection	85°	95°	100%
j	4.0	800	As test 'c'	800	Any convenient value	Orientation of Y-axis of deflection	-	10°	100%
	Angle of Y-axis of deflection measured relative to Axis oo on Fig. 1.								
k	See K1001/5A.3.2.					Grid insulation resistance (MΩ)	5	-	100%

OUTLINE DIMENSIONS



VIEW OF UNDERSIDE OF BASE SHOWING CONNECTIONS



NOTES:-

1. VIEWING THE SCREEN OF THE TUBE WITH THE BASE ORIENTATED, AS SHOWN ABOVE, A POSITIVE POTENTIAL APPLIED TO PIN No. 1 (X1) SHALL DEFLECT THE SPOT TO THE LEFT AND A POSITIVE POTENTIAL APPLIED TO PIN No. 2 (Y1) SHALL DEFLECT THE SPOT DOWNWARDS.

2 DIMENSIONS ARE IN MILLIMETRES.