ADMIRALTY SIGNAL & RADAR ESTABLISHMENT

VALVE ELECTRONIC

CV967

(NC19)

Specification AD/CV967/Issue 5. Dated 10.4.52. To be read in conjunction with K1001 (1952)	SECURITY Specn. Unclassified	Valve Unclassified

→ indicates a change

TYPE OF VALVE:- Cathode Ray Tube.

TYPE OF DEFLECTION AND FOCUS:- Electrostatic.

BULB:- Internally coated with conductive coating.

SCREEN:- GG5

PROTOTYPE:- 4053A (See Note A).

MARKING

See K1001/4.1.

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

RATING			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.1	
Max. Va3	(V)	800	B
X-plate sensitivity	(mm/V)	$\frac{100}{Va3}$	
Y-plate sensitivity	(mm/V)	$\frac{90}{Va3}$	
Desirable spot size	(mm)	1.0	
Max. line width	(mm)	1.0	C

TYPICAL OPERATING CONDITIONS		
Va3	(V)	800
Va2	(V)	135
Va1	(V)	800
Ib	(μA)	3.0

DIMENSIONS

See Drawing, page 3.

PACKAGING

See K1005.

NOTES

A. The CV967 specification is similar to but less stringent than that for CV1522 (VCR522). CV967 has better focus quality than CV950 which it supersedes.

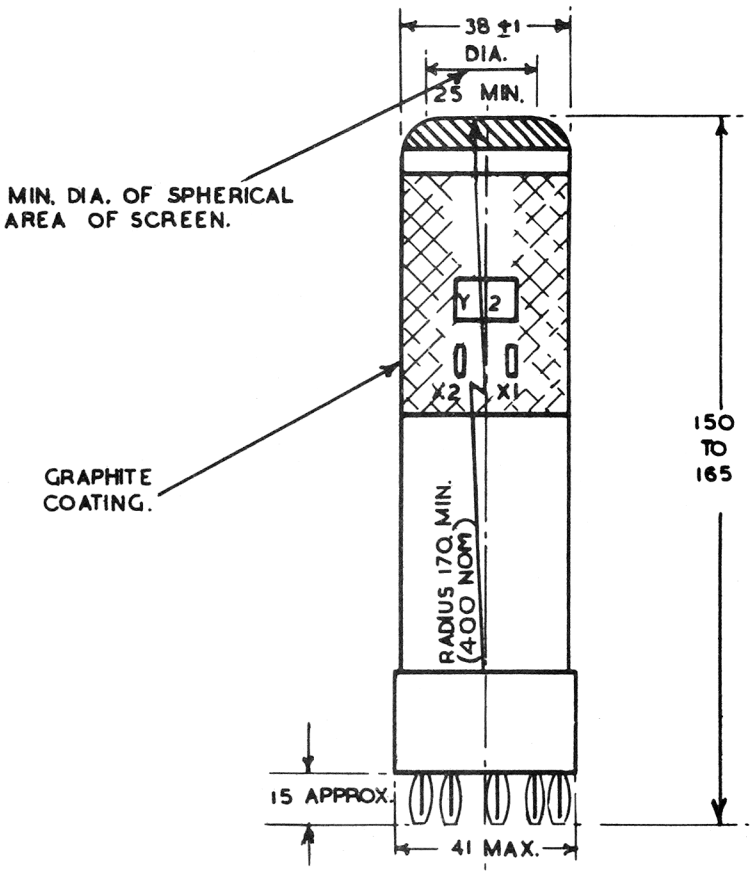
B. The tube shall be of the three anode construction.

→ C. 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.

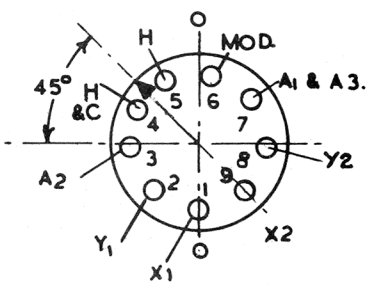
To be performed in addition to those applicable in K1001 (1952)

	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						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					Ih (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)	80/Va3 72/Va3	120/Va3 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 K1001/5A.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 66 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 No1. (X1) SHALL DEFLECT THE SPOT TO THE LEFT AND A POSITIVE POTENTIAL APPLIED TO PIN No. 2 (Y1.) SHALL DEFLECT THE SPOT DOWNWARDS.
2. ALL DIMENSIONS ARE IN MILLIMETRES.