ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

VALVE ELECTRONIC

CV955

(NC6)

Specification AD/CV955/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:- Electrostatic, and symmetrical

TYPE OF FOCUS:- Electrostatic

BULB:- Internally coated with conducting material

SCREEN:- GG5

PROTOTYPE:- 4409

RATING			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1	
Max. Va1	(kV)	2.0	
Max. Va3	(kV)	4.0	A
X-plate sensitivity	(mm/V)	320/Va3	
Y-plate sensitivity	(mm/V)	480/Va3	

TYPICAL OPERATING CONDITIONS		
Va1	(V)	1450
Va2 approx.	(V)	600
Va3	(kV)	3.0
Ib approx.	(μA)	10

MARKING

See K1001/4.1.

BASE

Standard 12-contact

Contact	Electrode
1	Mod.
2	No connection
3	H.C.
4	H
5	A1
6	A2
7	Coating
8	X2
9	No connection
10	A3
11	No connection
12	X1
Side Conn.	Y1, Y2 } See page 3 and Note C.

DIMENSIONS

See Drawing, Page 3.

PACKAGING

See K1005.

NOTES

A. The tube shall be of three anode construction.

→ B. Focus quality measured as follows:- With Va3 = 3000 V and Va2 and Vg adjusted to give an optimum-focus raster of convenient size and of light-output 0.1 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 40 mms long in both 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 1.5 mm.

→ C. The Y Plate side contacts may be either flush-type or projecting type (as shown) provided that the tubes with flush type contacts are supplied with appropriate adaptors so that no modification will be required to existing equipment.

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TESTS

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

	Test Conditions					Test	Limits Min.	Limits Max.	No. Tested
a	See K1001/App.3.					Capacitances (pF.) Each deflector plate to all other electrodes including graphite screen	-	15	6 per week
	Vh (V)	Vg (V)	Va1 (V)	Va2 (V)	Va3 (V)				
b	4.0					Ih (A)	0.8	1.2	100%
c	4.0		1450	Adjusted	3000	i. Vg	To be at least 1V-VE to cathode.		
	Adjust Vg and Va2 to give a light output of 0.1 candela from an optimum-focus raster of convenient size.					ii. Va2 (V)	450	750	100%
						iii. Line width to be measured as desired in Note B.	Not to exceed 1.5 mm at the centre		
d	4.0	Adjusted	1450	As test 'c'	3000				
	See K1001/5A.10.					Vg for blackout (V)	-	-90	100%
e	4.0		1450	As test 'c'	3000				
	Vg adjusted for light output of 0.1 candela.					Change in Vg from test 'd' (V)	-	25	100%
f	4.0		1450	As test 'c'	3000	Sensitivities (mm/V)			
	Sensitivities measured					i. X-plates	$\frac{240}{Va3}$	-	5% (1)
						ii. Y-plates	$\frac{350}{Va3}$	-	
g	4.0		1450	As test 'c'	3000	Deviation of spot from centre of screen (mm)	-	5	100%
	See K1001/5A.11.1.								
h	4.0		1450	As test 'c'	3000				
	Deflection voltages applied					Angle between Y-axis and diameter of base passing thro' spigot	-	15°	100%
j	See K1001/5A.3.2.					Grid Insulation Resistance (MΩ)	5	-	100%

OUTLINE DIMENSIONS.

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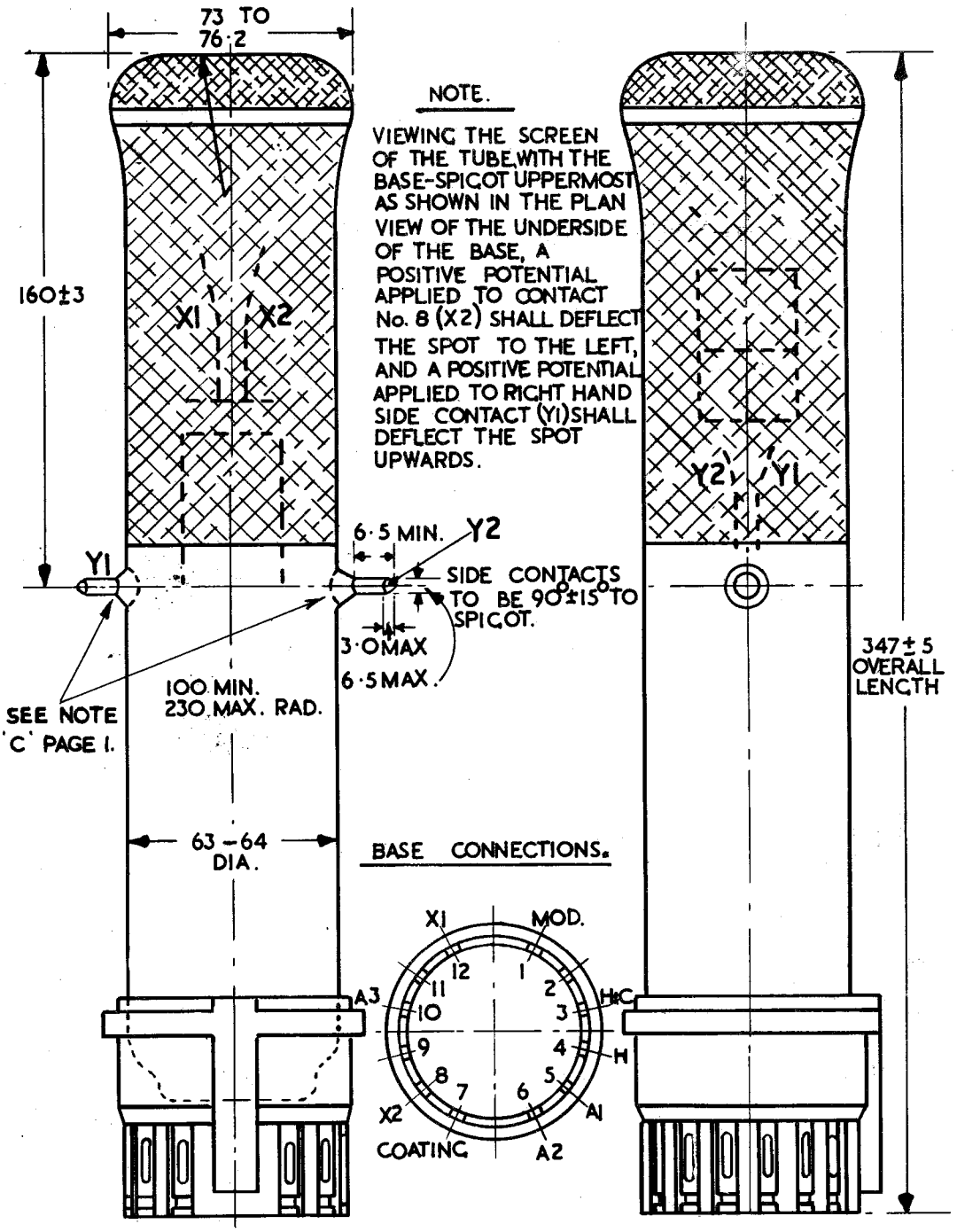

NOTE.

VIEWING THE SCREEN OF THE TUBE WITH THE BASE-SPIGOT UPPERMOST AS SHOWN IN THE PLAN VIEW OF THE UNDERSIDE OF THE BASE, A POSITIVE POTENTIAL APPLIED TO CONTACT No. 8 (X2) SHALL DEFLECT THE SPOT TO THE LEFT, AND A POSITIVE POTENTIAL APPLIED TO RIGHT HAND SIDE CONTACT (Y1) SHALL DEFLECT THE SPOT UPWARDS.

BASE CONNECTIONS.

ALL DIMENSIONS ARE IN MILLIMETRES.